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Summary of Additional Soil and Soil Vapor Assessment Operations and Request for Closure

Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California
OCHCA Case ID: 96UT21

1.0 INTRODUCTION

C. James & Associates (CJA) is pleased to present this additional site assessment report on behalf of on behalf of Fountain Valley Regional Hospital for the property 17100 located at 17100 Euclid Street, Fountain Valley, California. This report describes additional soil and soil vapor sampling operations and provides a rationale for case closure under the State Water Resources Control Board (State Water Board) *Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Policy)*. The work elements described in this report were conducted in accordance with CJA's *Work Plan for Soil and Soil Vapor Assessment* dated September 25, 2019 and the Orange County Local Oversight Program (OCLOP) response letter dated November 12, 2019.

2.0 BACKGROUND

The Fountain Valley Regional Hospital is located on the east side of Euclid Street, south of Warner Avenue, in Fountain Valley, California (**Plate P-1**). The investigation area is located in a paved parking area in the central portion of the hospital property, south of the Women and Children's Hospital and east of an Engineering Services Building (**Plate P-2**). Two diesel underground storage tanks (USTs) were formerly located in this portion of the property. An

approximately 4,000-gallon diesel UST was removed in 1986, and an approximately 10,000-gallon diesel UST was removed in June 1996.

Land use in the vicinity of Fountain Valley Regional Hospital is a mixture of residential and commercial (office/retail) properties. The hospital is bounded to the west by Euclid Street and residential properties beyond, to the south by residential and office/retail properties, to the east by an assisted living facility and a medical office building, and to the north by Warner Avenue and residential properties and a retail center beyond.

3.0 SUMMARY OF PREVIOUS RELEASE CASE (OCHCA #86UT203)

A 4,000-gallon, single-walled, diesel UST was removed from the area east of the Engineering Services Building in November 1986 under the supervision of the Orange County Health Care Agency (OCHCA). While the UST was being exposed for removal, groundwater accumulated in the excavation cavity at approximately 8 feet below ground surface (bgs). Groundwater reportedly entered the UST through holes in its north end, and a mixture of water and residual diesel fuel spilled into the excavation cavity as the UST was removed. A vacuum truck was used to remove the groundwater-diesel fuel mixture from the excavation cavity, and a soil sample was recovered from beneath the removed UST. Elevated concentrations of total recoverable petroleum hydrocarbons (TRPH) were detected (3,200 milligrams per kilogram [mg/kg]), and an unauthorized release case (86UT203) was opened by OCHCA.

Three groundwater monitoring wells (MW-1 to MW-3) were installed in December 1986. Soil samples were recovered at 3 and 7 feet bgs during wells installation operations, and total petroleum hydrocarbon [TPH] concentrations in composited samples were below the laboratory detection limit. The wells were monitored and sampled in January 1987. No evidence of free product was encountered and TPH concentrations were below the laboratory detection limit. Based on the results of environmental site assessment and mitigation operations, the unauthorized release case (86UT203) was closed with no further action required in March 1988.

4.0 SUMMARY OF ON-GOING ASSESSMENT OPERATIONS (OCHCA #96UT21)

4.1 UST Removal and Soil Excavation - June 1996

In June 1996, a 10,000-gallon diesel UST was removed from the area east of the Engineering Services Building (**Plate P-2**). This UST was located approximately 30 feet east of the 4,000-gallon UST which was removed in 1986. Impacts to soil and groundwater in the area of the 10,000-gallon UST were encountered at the time of removal, and an unauthorized release case (96UT21) was opened by OCHCA. The former fuel system consisted of the 10,000-gallon diesel UST, two pumps, and in-ground piping which ran northerly to the power plant and boiler located north of the USTs and pumps.

The UST excavation cavity was over-excavated, and petroleum hydrocarbon impacted soil was disposed of at an off-site facility. In addition to soil disposal, petroleum hydrocarbon impacted groundwater was recovered from the excavation and disposed at an off-site treatment facility. The excavation was subsequently partially backfilled with a concrete slurry due to geotechnical requirements.

4.2 Soil and Groundwater Investigation - August 1996

CRC Environmental Risk Management, Inc. (CRC) conducted soil and groundwater investigation operations at the property in August 1996. Subsurface soil samples were recovered from ten soil borings (B1 to B11) which were advanced to depths ranging from 8 to 10 using direct push drilling and sampling equipment (**Plate P-3**). Grab groundwater samples were recovered from eight of the soil borings. TPH in the diesel carbon range (TPHd) in soil ranged from below the laboratory detection limit to 10,800 mg/kg, and relatively low concentrations of benzene, toluene, ethylbenzene, and xylenes (collectively BTEX) were detected in several of the samples.
TPHd concentrations in the grab groundwater samples ranged from below the laboratory detection limit to 381,000 micrograms per liter (ug/l), and elevated concentrations of BTEX were also detected in several of the groundwater samples. The groundwater monitoring wells (MW-1 to MW-3) were gauged, and free product was observed in well MW-2. Soil analytical results are summarized in **Table 1** and are illustrated on **Plate P-3**. Groundwater analytical results are summarized in **Table 2.**

4.3 Additional Site Assessment- June 1997

In June, 1997, MJA Consulting, Inc. (MJA) conducted additional site assessment operations at the subject site. Field activities included collecting soil samples from one hand augered boring (HB-1) in the vicinity of the former fuel pump, and collecting groundwater samples from the existing groundwater monitoring wells (MW-1 to MW-3). Free product was encountered in well MW-2. TPHd, benzene, and methyl tert-butyl ether (MTBE) were not detected in the groundwater samples collected from monitoring wells MW-1 and MW-3 (**Table 2**). TPHd was detected in the soil sample recovered at 7.5 feet bgs from boring HB-1 at 19 mg/kg (**Table 1**).

4.4 Additional Site Assessment- January 2002

In January 2002, CJA conducted additional site assessment operations at the subject property which included the recovery of subsurface soil samples from nine direct push soil borings (probes A to I) at depths ranging from 5 to 30 feet bgs. Soil analytical results are summarized in **Table 1** and are illustrated on **Plate P-3**. Elevated concentrations of TPHd were encountered in several probes at depth intervals at or near the groundwater interface (approximately 8 to 10 feet bgs). The maximum concentrations of TPHd detected was 4,200 mg/kg in the soil sample recovered from probe F at 8 feet bgs. Soil sampling operations and results are described in CJA's report titled *Environmental Site Assessment at Fountain Valley Regional Hospital, 17100 Euclid Street, Fountain Valley, California*, dated April 15, 2002.

4.5 Groundwater Monitoring Operations - 1997 to 2013

Groundwater monitoring and sampling operations were conducted at the subject site from June 1997 to December 2013 on an approximately quarterly basis. In addition to the three monitoring wells which were installed in connection with the removal of the 4,000-gallon diesel UST (MW-1 to MW-3), seven additional wells were installed between December 1997 and August 2004 (MW-4 to MW-10). Information regarding the construction of the groundwater monitoring wells at the subject property is summarized in the following tables:

Well ID	Installation Date	Diameter (inches)	Screen Interval (feet)	Comments
MW-1	12/30/1986	4	5 - 20	
MW-2	12/30/1986	4	5 - 20	
MW-3	12/30/1986	4	5 - 20	Well destroyed during site renovations in 2008
MW-4	12/12/1997	2	5 - 20	
MW-5	12/12/1997	2	5 - 20	
MW-6	12/12/1997	2	5 - 20	
MW-7	5/17/1999	2	5 - 20	
MW-8	5/17/1999	2	5 - 20	
MW-9	6/9/2004	2	3 - 18	
MW-10	6/9/2004	2	3 - 18	

In general, groundwater containing high concentrations of dissolved phase TPHd as well as liquid phase petroleum (free product) was encountered in the area immediately surrounding the removed 10,000 gallon diesel UST. Free product was encountered historically in wells MW-2, MW-5, MW-6 and MW-10 at thicknesses ranging up to approximately 3.5 feet. Dissolved phase TPHd concentrations reduced radially from the source zone, and the lateral limits of the plume of diesel impacted groundwater are well defined by the network of groundwater monitoring wells at the site. Historical groundwater analytical results and elevation data are summarized in **Table 2** of this report.

4.6 Free Product Removal Operations - 1997 to 2013

Free product was encountered historically in wells MW-2, MW-5, MW-6, and MW-10 at thicknesses ranging up to 3.5 feet (**Table 2**). Free product removal operations were initiated during the third quarter of 1997 and initially consisted of the manual removal of free product from monitoring well MW-2 using a hand bailer. Beginning in the third quarter of 1998, free product was also removed from well MW-5 by hand bailing, and beginning in the fourth quarter of 2000, free product was removed from wells MW-2, MW-5, and MW-6 using a combination of manual removal with a hand bailer and extraction with a vacuum truck. Free product removal operations focused on wells MW-5 and MW-10 from the second quarter of 2005 until removal operations were terminated in the fourth quarter of 2013.

A total of approximately 9,250 gallons of free product (diesel) and groundwater were extracted between 1997 and 2013. The extracted free product/groundwater was transported to licensed disposal facilities under uniform non-hazardous waste manifests. A summary of free product removal operations is provided in CJA's *Summary Report and Request for Closure* dated August 7, 2018.

4.7 Soil Vapor Survey - March 2012

In March 2012, CJA conducted a soil vapor survey at the subject property in order to evaluate potential adverse impacts to occupants of nearby buildings associated with vapor intrusion into indoor air space. Temporary soil vapor sampling probes were installed at approximately 1 foot and 5 feet bgs at seven sampling locations (SV1 to SV7). The deeper probe of sampling point SV5 was set at 4 feet bgs due to refusal. Soil vapor samples were recovered in accordance with DTSC guidelines, and the samples were analyzed for TPH in the gasoline range (TPHg) and for volatile organic compounds VOCs) (full scan) by EPA Methods TO-3 and TO-15. Samples were not recovered from probe points SV1-5' and SV2-1' due to the presence of groundwater within the sampling train.

Concentrations of TPHg and all VOCs were below the respective laboratory detection limits, and there are no anticipated health risks to occupants of buildings near the release area associated with vapor intrusion into indoor air space. Soil vapor analytical results are summarized in **Table 3** and are illustrated on **Plate P-4**. A detailed description of sampling operations and results is provided in CJA's *First Quarter 2012 Groundwater Monitoring and Soil Vapor Survey Report* dated April 27, 2012.

4.8 Post- Remedial Groundwater Monitoring and Sampling Operations - March 2018 to June 2018

On March 20, 2018, CJA measured the depth to groundwater and checked for the presence of free product in wells MW-5, MW-6, and MW-10. The depth to groundwater was measured using an oil/water interface meter capable of measuring free product thicknesses as low as approximately 0.005 feet (1.0 millimeters). Free product was not detected in any of the gauged monitoring wells. Disposable bailers were then used to visually inspect for the presence of free product in wells MW-5, MW-6, and MW-10. No evidence of free product was observed; however, a strong diesel odor was present in the sample recovered from well MW-10. Groundwater elevation and free product data are summarized in **Table 2**.

On June 21, 2018, June 26, 2019 and September 27, 2019, groundwater monitoring and sampling operations were performed on the nine existing groundwater monitoring wells (MW-1, MW-2,

and MW-4 to MW-10) by Blaine Tech Services, Inc. The depth to groundwater was measured using an oil/water interface meter, and free product was not detected in any of the gauged monitoring wells. Groundwater samples were recovered from the monitoring wells in disposable bailers. The bailers were visually examined for the presence of free product or the presence of a product sheen prior to transferring the contents of the bailers into laboratory supplied sample containers. No visual evidence of free product was observed; however, a slight product sheen was observed on the groundwater sample obtained from well MW-10.

Groundwater depths ranged from approximately 7 to 8 feet below ground surface (bgs), and the inferred groundwater flow direction in the investigation area was generally westerly (see **Plate P-5).** Groundwater analytical results from the September 2019 sampling event are summarized in the table below and historical groundwater analytical results are summarized in **Table 2.** The inferred distribution of dissolved phase TPHd in groundwater is illustrated on **Plate P-6.**

Groundwater Analytical Results (ug/L) September 27, 2019					
Well ID	**TPHd (C12-C22)**	**TPHg (C5-C12)**	**Benzene**	**Oxygenates**	**Naphthalene**
MW-1	<500	<500	<0.5	ND	<1.0
MW-2	<500	<500	<0.5	ND	<1.0
MW-4	<500	<500	<0.5	ND	<1.0
MW-5	5,900	<500	<0.5	ND	<1.0
MW-6	<500	<500	<0.5	ND	<1.0
MW-7	<500	<500	<0.5	ND	<1.0
MW-8	17,000	<500	<0.5	ND	1.9
MW-9	<500	<500	<0.5	ND	<1.0
MW-10	130,000	2,700	<0.5	ND	13
ND = Not Detected					

5.0 GEOLOGY & HYDROGEOLOGY

The surface geology at the subject property is depicted on published geologic maps as recent alluvial deposits (California Division of Mines and Geology, *Geologic Map of California, Santa Ana Sheet*, 1966). Subsurface soils encountered during environmental site assessment operations conducted at the subject site consist primarily of clayey and sandy silt from the ground surface to approximately 3 to 4 feet bgs. This clayey and sandy silt layer is underlain by silty sand and sand to a depth of approximately 8 to 10 feet bgs, and sandy clay was encountered below approximately 8 to 10 feet bgs. Lithologic logs from the February 2020 sampling operations are provided in **Appendix A.**

Groundwater has been encountered beneath the site at depths ranging from approximately 7 to 10 feet below grade throughout the investigation period (**Table 2**), and calculated groundwater flow directions have been generally to the west.

The subject site is located in the East Coastal Plain Subarea of the Lower Santa Ana River Hydrologic Area in the Santa Ana River Hydrologic Unit. Groundwater in this area is designated for beneficial use for municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply. The Santa Ana River is located approximately 3,000 feet southeast of the release site, and beneficial uses of surface waters within Santa Ana River include contact and non-contact recreation, warm freshwater habitat, and wildlife habitat.

6.0 SUMMARY OF FIELD OPERATIONS

6.1 Drilling/Soil Sampling Operations

On February 5, 2020, soil samples from eight probe locations designated as P1 to P8 and soil vapor probes were set in five probe locations designated P! To P5, followed by soil vapor sampling from each probe location on February 7, 2020 (**Plates P-7 and P-8**). H&P Mobile Geochemistry used direct push drilling equipment to advance the probes to depths ranging from 5 to 10 feet bgs. Soil samples were recovered from select soil probes at approximately 2.5, 5, and 10 feet bgs, and temporary soil vapor probes were set in probes P1 to P5 at 5 feet bgs. Soil and soil vapor sampling intervals are summarized in the following table:

Soil and Soil Vapor Probes Sampling Locations February 5, 2020			
Probe ID	**Total Depth (feet bgs)**	**Soil Sample Depths (feet bgs)**	**Soil Vapor Sample Depths (feet bgs)**
P1	10	2.5, 5, 10	5
P2	10	2.5, 5, 10	5
P3	5	2.5, 5	5
P4	5	2.5, 5	5
P5	5	2.5, 5	5
P6	10	2.5, 5, 10	--
P7	8	2.5, 5, 8	--
P8	10	2.5, 5, 10	--

Stataprobe™ direct push drilling equipment was used to advance 1.5-inch diameter sampling rods to the desired sampling intervals. Where feasible, soil samples were recovered in metal sampling sleeves. However, due to the presence of gravel from the near surface road base material caving into the probe holes between sample intervals, acetate sampling sleeves were used at several sample intervals to facilitate retrieval of the sample sleeve from the downhole sampling rod. Soil samples were immediately sealed, labeled, and stored in an ice-chilled cooler. The samples were delivered to a California certified analytical laboratory using standard chain - of-custody procedures. Sampling equipment, probe rods, and other tooling was washed in a detergent solution and rinsed with water between sampling events to prevent cross-contamination. Soil lithologies were recorded on field logs during drilling and sampling operations and are provided in **Appendix A**.

The target sampling depth was achieved at all probe locations with the exception of probe P7. Dense cemented sand was encountered at approximately 8 feet bgs in this probe, resulting in drilling refusal. This cemented sand was apparently cement slurry which was used to backfill the UST excavation cavity following removal/excavation operations.

6.2 Soil Vapor Probe Installation Operations

Upon the completion of soil sampling operations, H&P Mobile Geochemistry constructed temporary soil vapor probes at probe locations P1 to P5. Probe implants connected to 0.25-inch diameter Teflon tubing were installed at approximately 5 feet bgs. The probe implants were installed within an approximately 1-foot thick sand filter pack (4.5 to 5.5 feet bgs). Approximately 6-inches of dry granular bentonite was placed above (and below where applicable) the sand filter pack, and hydrated bentonite was placed above the dry granular bentonite to just below the ground surface (and below the dry granular bentonite to the total depth of the probe where applicable). Each probe was equipped with a gas-tight fitting. Soil gas probe construction specifications are illustrated in **Appendix A**.

6.3 Soil Vapor Sampling Operations

On February 7, 2020, following a 48 hour equilibration period, soil vapor samples were recovered from soil gas probes P1 to P5 by H&P Mobile Geochemistry. The soil vapor probes were sampled using 400 milliliter (ml) Summa™ canisters in general accordance with DTSC Guidelines. At each location, a shut in test was performed for 60 seconds to verify sample train integrity, and 1,1-DFA was used as a gaseous leak check compound. Probe vacuum was monitored to remain less than 100 inches of water, and a flow rate of 100 to 200 ml/min was maintained during purging and sampling. Approximately purge 3 purge volumes (tubing + 40% sand pack + 50% dry bentonite) were purged from each sample probe location prior to sampling. Soil vapor sampling information is summarized on a field sampling log completed by H&P personnel **(Appendix B)**.

6.4 Laboratory Analyses

Soil samples recovered from probes P1 to P8 on February 5, 2020 were analyzed by H&P Mobile Geochemistry for TPHg and TPHd by the Cal-LUFT GC Method, and for VOCs by EPA Method 5030/8260B.

Soil vapor samples recovered from each probe P1 to P5 (including a duplicate sample at probe P4) on February 7, 2020 were analyzed by H&P Mobile Geochemistry for TPHg and VOCs (including fuel oxygenates and naphthalene) by EPA Method 8260SV. The samples were additionally analyzed by H&P Mobile Geochemistry for oxygen by ASTM Method 1945 and were analyzed by Eurofins Air Toxics, LLC (subcontracted by H&P) for TPHd and naphthalene by EPA Method TO17. Laboratory reports and chain-of-custody records are provided in **Appendix C**.

7.0 RESULTS

7.1 Soil Sample Analytical Results

TPHg concentrations in soil ranged from below the laboratory detection limit (10 mg/kg) to 11 mg/kg in sample P2-10', and TPHd concentrations ranged from below the laboratory detection limit (10 mg/kg) to 1,700 mg/kg in sample P2-10'. BTEX and fuel oxygenate concentrations were below the respective laboratory detection limits in all samples. Naphthalene was detected at 0.0092 mg/kg in sample P2-10', and naphthalene concentrations in the remaining samples were below the laboratory detection limit (0.005 mg/kg). Soil analytical results are summarized in **Table 1** and are illustrated on **Plate P-7**. Laboratory reports and chain-of- custody records are provided in **Appendix C**.

7.2 Soil Vapor Analytical Results

TPHg concentrations were below the laboratory detection limit (40 µg/l) in all of the soil vapor samples, and TPHd concentrations ranged from non-detectable (<10 µg/l) to 15 µg/l in sample P4-5' (replicate). Benzene, toluene, xylenes, fuel oxygenate, and naphthalene concentrations were below the respective laboratory reporting limits in all soil vapor samples. Oxygen concentrations ranged from 4.9% to 13%. Soil vapor laboratory analytical results are summarized in **Table 3** and are illustrated on **Plate P-8**. Laboratory reports and chain of custody records are provided in **Appendix C**.

8.0 DISCUSSION

8.1 Contaminant of Concern (COC) Distribution

The results of environmental site assessment operations conducted to date indicate that the release of diesel fuel from the removed 10,000 gallon UST impacted soil and groundwater in the immediate vicinity of the UST. Diesel fuel is the primary contaminant of concern. Low concentrations of naphthalene, BTEX, and fuel oxygenate compounds have been detected intermittently in soil and groundwater, but at concentrations that do not pose a significant threat to public health or the environment.

Vadose zone soil impacted with diesel fuel was encountered in the area immediately surrounding the removed 10,000 gallon UST and extended vertically to the groundwater interface located approximately 8 feet bgs. Released diesel fuel spread laterally at the groundwater interface, and

diesel impacted soil near the capillary fringe has been encountered in soil samples located at greater distances from the release zone. The lateral limits of the plume of diesel impacted soil have been well delineated as a result of soil assessment operations. The vertical migration of contaminants was limited by the relatively shallow groundwater at the release site, and diesel impacted soil does not extend significantly below the groundwater interface.

A sufficient volume of diesel was released to result in the presence of liquid phase hydrocarbons (free product) on the surface of the water table. This free product was encountered historically in the immediate vicinity of the removed diesel UST. Free product extraction operations have been successful in removing the liquid phase hydrocarbons in the source zone, and measurable free product was not observed during recent groundwater monitoring and sampling operations conducted from March 2018 to September 2019, with the exception of a slight product sheen (0.02 feet) observed in well MW-10 in September 2019.

Dissolved phase diesel fuel radiated laterally from the source zone, and covered a larger lateral area than the lateral limits of the plume of free product. The inferred lateral limits of the plume of groundwater impacted with dissolved phase diesel fuel have been well defined by the network of onsite monitoring wells, and is limited to the parking lot area to the east of the Engineering Services Building (**Plate P-6**).

8.2 Mitigation Operations

Impacts associated with the release of diesel fuel at the subject property have been mitigated as a result of soil excavation operations and free product removal operations. An unspecified volume of petroleum-impacted soil was excavated and transported to an off-site disposal facility in association with the removal of the 10,000 gallon diesel UST in 1997. In addition, petroleum hydrocarbon impacted groundwater which had collected within the excavation cavity was recovered and disposed of.

From 1997 to 2013, free product recovery operations were conducted on wells MW-2, MW-5, MW-6, and MW-10. Recovery operations included the extraction of free product at the groundwater interface in these wells via hand bailing and extraction using a vacuum truck. A total of approximately 9,250 gallons of free product (diesel) and groundwater were extracted between 1997 and 2013. The extracted free product/groundwater was transported to licensed disposal facilities under uniform non-hazardous waste manifests.

Free product removal operations were successful in removing the liquid phase hydrocarbons in the release zone. Free product removal operations were terminated in 2013 and no significant "rebound" in free product thickness was observed during monitoring and sampling operations

conducted from March 2018 to September 2019. A slight product sheen (approximately 0.02 feet) was observed in the groundwater sample recovered from well MW-10, but measurable free product was not encountered in any of the nine existing groundwater monitoring wells at the subject property.

9.0 GENERAL CLOSURE CRITERIA - LOW THREAT POLICY

The Site meets the General Criteria for Low Threat Closure

a. The unauthorized release is located within the service area of a public water system (City of Fountain Valley - Water Department)
b. The unauthorized release consists only of petroleum
c. The unauthorized release from the UST system has been stopped
d. Free product has been removed to the extent practicable.
e. A site conceptual model that assess the nature, extent, and mobility of the release has been developed.
f. The secondary source has been removed to the extent practicable
g. Soil and/or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15
h. A nuisance does not exist as defined by Water Code section 13050

As described in Sections 8.1 and 8.2 above, the subject property meets all of the general criteria.

The Media Specific Criteria for Low Threat Closure are described in Section 10.0

10.0 EXPOSURE PATHWAY EVALUATION

The most common drivers of health risk associated with petroleum releases are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. Potential exposure pathways associated with these scenarios are summarized and compared to the Media Specific Criteria requirements specified in the Low-Threat Policy as follows.

These media and pathways have been evaluated and the most common exposure scenarios have been combined into three media-specific criteria:

1. Groundwater
2. Vapor Intrusion to Indoor Air
3. Direct Contact and Outdoor Air Exposure

Candidate sites must satisfy all three of these media-specific criteria as described below.

10.1 Groundwater

The results of environmental site assessment operations conducted at the subject property indicate that the diesel fuel release at the property adversely impacted groundwater with liquid phase hydrocarbons (free product) and dissolved phase hydrocarbons. Free product removal operations were successful in reducing liquid phase hydrocarbons in the source zone from approximately 3.5 feet of free product in 1997 to a slight product sheen during post remedial monitoring operations conducted in 2018 and 2019. Although residual groundwater impacted with dissolved phase diesel fuel is present near the release zone, this residual diesel impacted groundwater does not pose a threat to public health or the environment. The plume of impacted groundwater has demonstrated stability and is decreasing in aerial extent. In CJA's judgement, water quality objectives will be achieved through natural attenuation within a reasonable time, prior to the expected need for use of any affected groundwater.

The plume of groundwater that exceeds water quality objectives meets Criteria 1 of the Groundwater Specific Criteria requirements specified in the *Low-Threat Policy*. Specifically, the plume of impacted groundwater is "stable or decreasing", i.e. is a contaminant mass that has expanded to its maximum extent, and:

a. The contaminant plume that exceeds water quality objectives is less than 100 feet in length. The plume of impacted groundwater is well defined by an array of "clean" groundwater monitoring wells located approximately 75 feet or less from the source zone (see Plate P-3).

b. There is no measurable free product. Mitigation operations were successful in reducing liquid phase hydrocarbons from approximately 3.5 feet in 1997 to a slight product sheen observed in well MW-10 (approximately 0.02 feet) during post remedial monitoring operations.
c. The nearest existing water supply well or surface water body is greater than 250 feet from the defined plume boundary. The Santa Ana River, the nearest hydrologic receptor, is located approximately 3,000 feet southeast of the release zone.

10.2 Petroleum Vapor Intrusion to Indoor Air

Site specific assessments for the vapor intrusion pathway were conducted in 2012 and again in February 2020. Subsurface soil vapor samples were recovered from soil vapor probes installed near site buildings located near the release zone, and there are no anticipated health risks to occupants of buildings near the release area associated with vapor intrusion into indoor air space. The release at the subject property satisfies Scenario 4 (Direct Measurement of Soil Gas Concentrations with Bioattenuation Zone) of the *Low-Threat Closure Policy,* and the release is considered low-threat for the vapor intrusion to indoor air pathway. Specific criteria of Scenario 4 are summarized as follows:

Contaminant of concern (COC) concentrations meet the criteria in the table below, and the following requirements for demonstrating a bioattenuation zone are satisfied:

1. A minimum of 5 vertical feet is present between the depth of the soil vapor samples and the foundation of the existing buildings or the ground surface of future construction.
2. TPHg and TPHd concentrations measured in at least two depths within the 5-foot zone are less than 100 mg/kg. TPHg and TPHd were not detected in any of the samples recovered at 2.5 and 5 feet bgs from soil probes P1 to P5 (see **Table 1**).
3. Oxygen concentration is soil gas samples recovered from probes P1-5' to P5-5' in February 2020 ranged from 4.9% to 13%, demonstrating that a bioattenuation zone is present (oxygen greater than or equal to 4%) in the vicinity of the release zone (see **Table 3**).

Constituent	Maximum Detected Soil Gas Concentration ($\mu g/m^3$)	Soil Gas Criteria with Bioattenuation Zone ($\mu g/m^3$)	
		Residential	Commercial
Benzene	ND (<20)	<85,000	<280,000
Ethylbenzene	150	<1,100,000	<3,600,000
Naphthalene	ND (<20)	<93,000	<310,000
ug/m3 = microgram per cubic meter			

10.3 Direct Contact and Outdoor Air Exposure

The exposure pathways associated with direct contact with contaminated soils or inhalation of contaminants volatilized to outdoor air are insignificant and do not pose a significant threat to human health. The release at the subject site meets the criteria of Scenario A of the *Low- Threat Closure Policy*. Specifically, the maximum concentrations of petroleum constituents are less than or equal to those listed in Table 1 of the *Low-Threat Closure Policy* for the specified depth intervals. The following table summarizes the maximum concentrations of COCs encountered at the release site at specific depth intervals as compared to concentration limits specified in Table 1 of the *Low-Threat Closure Policy*. The maximum detected concentrations specified in the table below represent concentrations of COCs encountered in recent soil sampling operations (February 2020). In addition, the maximum concentrations of COCs in soil encountered during historical assessment operations conducted from 1996 to 2004 are indicated in parentheses. Both the recent and historical soil analytical results are orders of magnitude less than the specified concentration limits.

Maximum COC Concentrations Detected (mg/kg)						
	Ingestion, dermal contact, inhalation (Commercial/Industrial) 0 - 5 feet bgs		Volatilization to outdoor air (Commercial/Industrial) 5 - 10 feet bgs		Utility Worker 0 - 10 feet bgs	
Chemical	**Max Detected**	**Action Level****	**Max Detected**	**Action Level****	**Max Detected**	**Action Level****
Benzene	<0.005 (<0.005)*	8.2	<0.005 (0.193)*	12	<0.005 (0.193)*	14
Ethylbenzene	<0.005 (<0.014)*	89	<0.005 (2.3)*	134	<0.005 (2.3)*	314
Naphthalene	<0.005 (NA)*	45	0.0092 (1.8)*	45	0.0092 (1.8)*	219

* - Analytical results in parentheses represent results from soil samples recovered from 1996 to 2004

** - Based on "Table 1: Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health", SWRCB, Low-Threat Underground Storage Tank Case Closure Policy

There are no anticipated significant health risks associated with the direct contact with or inhalation of volatilized contaminants in connection with the residual diesel impacted soil at the subject property.

11.0 CONCLUSIONS AND RECOMMENDATIONS

The unauthorized release case at the subject property appears to meet the criteria for case closure as established by State Water Resources Control Board's 2012 *Low Threat UST Closure Policy* (SWRCB Resolution 2012-0016). CJA recommends that the unauthorized release case be closed with no further action required with regards to environmental site assessment and/or mitigation. Upon concurrence from OCHCA, a Work Plan to properly destroy the groundwater monitoring wells will by prepared and submitted.

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STATE OF CALIFORNIA

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TABLES

PLATES

APPENDICES

TABLES

Table 1
Soil Analytical Data

Sample ID	Depth (feet)	Date	TPHg (mg/kg)	TPHd (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	Naph-thalene (mg/kg)	Laboratory
B1	5	8/21/96	--	28	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B1	10	8/21/96	--	3,520	0.193	0.077	0.488	3.72	--	--	ATL
B2	8	8/23/96	--	2,620	0.037	0.461	2.3	2.93	--	--	ATL
B3	5	8/21/96	--	110	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B3	8	8/21/96	--	110	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B5	5	8/21/96	--	225	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B5	8	8/21/96	--	110	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B6	5	8/23/96	--	<10	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B6	8	8/23/96	--	268	0.069	<0.005	0.278	0.508	--	--	ATL
B7	5	8/23/96	--	<10	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B7	8	8/23/96	--	1,510	<0.005	0.03	0.12	1.07	--	--	ATL
B8	5	8/23/96	--	<10	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B8	8	8/23/96	--	<10	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B9	2	8/21/96	--	122	<0.005	<0.005	0.014	0.062	--	--	ATL
B9	5	8/21/96	--	38	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B9	9	8/21/96	--	108	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B10	8	8/21/96	--	42	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B11	5	8/21/96	--	29	<0.005	<0.005	<0.005	<0.005	--	--	ATL
B11	10	8/21/96	--	10,800	0.08	0.0067	0.019	0.35	--	--	ATL
HB-1	5	6/18/97	--	<10	<0.005	0.015	0.0059	0.048	<0.005	--	ATL
HB-1	7.5	6/18/97	--	19	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
MW-4	5	12/12/97	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
MW-4	15	12/12/97	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
MW-5	5	12/12/97	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
MW-5	15	12/12/97	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
MW-6	5	12/12/97	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
MW-6	15	12/12/97	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
MW-7	8	5/17/99	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
MW-8	8	5/17/99	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.005	--	ATL
A	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
A	8	1/30/02	--	<10	--	--	--	--	--	--	CTEL
B	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
B	8	1/30/02	--	<10	--	--	--	--	--	--	CTEL
B	15	1/30/02	--	<10	--	--	--	--	--	--	CTEL
B	20	1/30/02	--	<10	--	--	--	--	--	--	CTEL
B	25	1/30/02	--	<10	--	--	--	--	--	--	CTEL
B	30	1/30/02	--	<10	--	--	--	--	--	--	CTEL
C	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
C	8	1/30/02	--	360	--	--	--	--	--	--	CTEL
C	15	1/30/02	--	<10	--	--	--	--	--	--	CTEL
D	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
D	8	1/30/02	--	200	--	--	--	--	--	--	CTEL
E	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
E	8	1/30/02	--	<10	--	--	--	--	--	--	CTEL

Table 1
Soil Analytical Data

Sample ID	Depth (feet)	Date	TPHg (mg/kg)	TPHd (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	Naph-thalene (mg/kg)	Laboratory
F	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
F	8	1/30/02	--	4,200	--	--	--	--	--	--	CTEL
F	15	1/30/02	--	<10	--	--	--	--	--	--	CTEL
F	20	1/30/02	--	<10	--	--	--	--	--	--	CTEL
G	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
G	8	1/30/02	--	2,700	--	--	--	--	--	--	CTEL
G	15	1/30/02	--	<10	--	--	--	--	--	--	CTEL
H	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
H	8	1/30/02	--	<10	--	--	--	--	--	--	CTEL
H	10	1/30/02	--	390	--	--	--	--	--	--	CTEL
H	15	1/30/02	--	<10	--	--	--	--	--	--	CTEL
I	5	1/30/02	--	<10	--	--	--	--	--	--	CTEL
I	8	1/30/02	--	1,600	--	--	--	--	--	--	CTEL
I	10	1/30/02	--	2,600	--	--	--	--	--	--	CTEL
I	20	1/30/02	--	<10	--	--	--	--	--	--	CTEL
MW-9*	10	6/9/04	--	720	<0.005	<0.005	<0.005	0.05	<0.005	1.8	CTEL
MW-10*	10	6/9/04	--	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	CTEL
P1	2.5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P1	5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P1	10	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P2	2.5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P2	5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P2	10	2/5/20	11	1,700	<0.005	<0.005	<0.005	<0.010	<0.005	0.0092	H&P
P3	2.5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P3	5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P4	2.5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P4	5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P5	2.5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P5	5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P6	2.5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P6	5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P6	10	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P7	2.5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P7	5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P7	10	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P8	2.5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P8	5	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P
P8	8	2/5/20	<10	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	H&P

TPHg - Total Petroleum Hydrocarbons in the Gasoline Range

TPHd - Total Petroleum Hydrocarbons in the Diesel Range

TPHg & TPHd analyzed by EPA Method 8015M

BTEX & MTBE analyzed by EPA Method 8020 except as noted

* - BTEX, MTBE, and Naphthalene analyzed by EPA Method 8260B

ATL - Advanced Technology Laboratories

CTEL - Cal Tech Environmental Laboratories

H&P - H&P Mobile Geochemistry Inc.

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-1	5-20	37.03	06/18/97	7.49	29.54	0.00	<200	--	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/19/97	8.09	28.94	0.00	<200	120	1.1	9.1	0.62	1.8	---	0.67
		37.40	12/12/97	7.89	29.51	0.00	<200	300	<0.5	<0.5	<0.5	<0.5	---	320
			03/19/98	6.59	30.81	0.00	<200	120*	<0.5	<0.5	<0.5	<0.5		2.0
			06/18/98	7.59	29.81	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/22/98	7.45	29.95	0.00	----	1,400	6.7	72	33	271	---	2.7
			10/02/98	---	---	0.00	<200	----	----	----	----	----	---	----
			12/28/98	7.81	29.58	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/15/99	7.65	29.75	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/15/99	7.50	29.90	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
		39.26	09/30/99	8.30	30.96	0.00	<50	<50	<0.5	<0.5	<0.5	<1	---	<0.5
			12/14/99	8.54	30.72	0.00	<50	100	<0.5	2.74	1.20	6.72	---	<0.5
			03/14/00	7.95	31.31	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/14/00	8.11	31.15	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/13/00	8.61	30.65	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			12/11/00	8.52	30.74	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-1	5-20	39.26	03/07/01	7.36	31.90	0.00	<200	<200	1.4	<0.5	<0.5	0.56	---	<0.5
			05/17/01	7.26	32.00	0.00	<200	<200	<0.5	<0.5	<0.5	<1	---	<0.5
			08/16/01	7.82	31.44	0.00	<200	----	----	----	----	----	---	----
			10/10/01	8.34	30.92	0.00	<200	----	----	----	----	----	---	----
			01/02/02	8.48	30.78	0.00	<1000	—	—	—	—	—	---	—
			04/25/02	8.46	30.80	0.00	230	—	—	—	—	—	---	—
			07/11/02	8.68	30.58	0.00	<200	—	—	—	—	—	---	---
			10/09/02	10.37	28.89	0.00	<1000	—	—	—	—	—	---	—
			01/03/03	10.04	29.22	0.00	<1000	—	—	—	—	—	---	—
			04/16/03	9.08	30.18	0.00	<1000	—	—	—	—	—	---	—
			07/18/03	8.56	30.70	0.00	<1000	—	—	—	—	—	---	—
			10/07/03	8.62	30.64	0.00	<1000	—	—	—	—	—	---	---
		39.46	02/18/04	9.74	29.72	0.00	<1000	—	—	—	—	—	---	---
			04/14/04	9.56	29.90	0.00	<1000	—	—	—	—	—	---	—
			08/04/04	8.54	30.92	0.00	<1000	—	—	—	—	—	---	—
			11/09/04	8.93	30.53	0.00	<1000	—	—	—	—	—	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-1	5-20	39.46	02/09/05	7.44	32.02	0.00	<1000	—	—	—	—	—	---	---
			05/10/05	7.34	32.12	0.00	<1000	—	—	—	—	—	---	---
			08/16/05	7.88	31.58	0.00	<1000	—	—	—	—	—	---	---
			11/03/05	8.50	30.96	0.00	<1000	—	—	—	—	—	---	---
			02/22/06	8.02	31.44	0.00	<1000	---	—	—	—	—	---	—
			06/05/06	8.54	30.92	0.00	<1000	----	<0.5	<0.5	<0.5	<0.6	---	<5
			09/08/06	7.97	31.49	0.00	<1000	—	—	—	—	—	---	—
			11/30/06	8.20	31.26	0.00	<1000	---	---	---	---	---	---	---
			03/02/07	8.11	31.35	0.00	<1000	---	---	---	---	---	---	---
			06/11/07	8.25	31.21	0.00	<1000	---	---	---	---	---	---	—
			09/18/07	8.75	30.71	0.00	<1000	---	---	---	---	---	---	—
			03/20/08	8.07	31.39	0.00	<1000	---	---	---	---	---	---	—
			06/10/08	8.20	31.26	0.00	<1000	---	---	---	---	---	---	—
			09/11/08	8.71	30.75	0.00	<1000	---	---	---	---	---	---	—
			12/17/08	---	---	0.00	Sampling Discontinued						---	
			06/23/10	8.01	31.45	0.00	<1000	---	---	---	---	---	---	—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-1	5-20	39.46	09/16/10	8.16	31.30	0.00	<1000	---	---	---	---	---	---	---
			12/15/10	8.07	31.39	0.00	<1000	---	---	---	---	---	---	---
			03/25/11	7.26	32.20	0.00	<1000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/23/10	7.62	31.84	0.00	<1000	---	---	---	---	---	---	---
			09/19/11	7.76	31.70	0.00	<1000	---	---	---	---	---	---	---
			12/16/11	7.79	31.67	0.00	<1000	---	---	---	---	---	---	---
			03/20/12	7.62	31.84	0.00	<1000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/27/12	7.65	31.81	0.00	<1000	---	---	---	---	---	---	---
			09/25/12	7.92	31.54	0.00	<1000	---	---	---	---	---	---	---
			12/19/12	7.94	31.52	0.00	<1000	---	---	---	---	---	---	---
			03/20/13	7.92	31.54	0.00	<1000	---	---	---	---	---	---	---
			06/13/13	8.05	31.41	0.00	<1000	---	---	---	---	---	---	---
			09/16/13	8.16	31.30	0.00	<1000	---	---	---	---	---	---	---
		39.26	12/20/13	8.35	31.11	0.00	<1000	---	---	---	---	---		---
			06/21/18	8.72	30.74	0.00	110	<50	<0.5	<0.5	<0.5	<0.5	<10	<0.5
			06/26/19	7.84	31.62	0.00	<500	<500	<0.5	<0.5	<0.5	<0.5	<1	<0.5

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-1	5-20	39.26	09/27/19	8.12	31.14	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
MW-2	5-20	36.67	06/18/97	10.48	26.19	3.50								
			09/19/97	---	---	3.20								
		36.58	12/12/97	—	---	2.90								
			03/19/98	6.52	30.06	0.10								
			04/01/98	---	---	---	1,000,000	1,200	----	----	----	----	---	----
			06/18/98	5.95	30.63	0.00	Not Sampled							
			09/22/98	6.13	30.45	0.10	Not Sampled							
			12/28/98	6.61	29.97	0.30	Not Sampled - Free Product							
			03/15/99	6.53	30.05	0.30	Not Sampled - Free Product							
			06/15/99	7.57	29.01	0.30	Not Sampled - Free Product							
		38.62	09/15/99	8.10	30.52	2.67	---	---	---	---	---	---	---	---
			12/14/99	8.35	30.27	0.50	1,120	1,160	<0.5	7.41	43.5	104.3	---	<0.5
			03/14/00	6.84	31.78	0.33	351,000	1,800	0.8	<0.5	1,4	<0.5	---	4.8

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-2	5-20	38.62	06/14/00	7.35	31.27	0.00	325,000	2,400	<0.5	0.5	3.7	1	---	3.5
			09/13/00	7.85	30.77	2.00	1,860,000	3,300	0.58	<0.5	5.4	4.7	---	---
			12/11/00	8.32	30.30	0.58	1,800,000	2,200	<0.5	<0.5	1.9	0.89	---	1.6
			03/07/01	6.81	31.81	0.29	2,600,000	1,800	0.58	<0.5	1.8	3.2	---	3.8
			05/17/01	7.14	31.48	0.33	300,000	820	0.89	7.1	5.4	43	---	27
			08/16/01	7.32	31.30	0.06	17,000,000	----	----	----	----	----	---	----
			10/10/01	7.56	31.06	0.29	60,000	—	—	—	—	—	---	—
			01/02/02	7.74	31.88	0.15	6,600,000	—	—	—	—	—	---	—
			04/25/02	7.52	31.10	0.06	2,500,000	—	—	—	—	—	---	—
			07/11/02	8.26	30.36	0.04	4,900,000	—	—	---	—	—	---	—
			10/09/02	9.74	28.88	0.01	9,200,000	—	—	—	—	—	---	—
			01/03/03	9.56	29.06	0.50	10,000 mg/L	—	—	—	—	—	---	---
			04/16/03	9.06	29.56	0.29	220,000	—	—	—	—	—	---	---
			07/18/03	8.44	30.18	0.23	130,000	—	—	—	—	—	---	—
			10/07/03	9.12	29.58	0.16	76,000	—	—	—	—	—	---	—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-2	5-20	38.62	02/18/04	8.78	29.92	0.05	32,000	—	—	—	—	—	---	—
			04/14/04	8.68	30.02	0.00	16,000	—	—	—	—	—	---	—
			08/04/04	8.66	30.04	0.00	300,000	—	—	—	—	—	---	—
			11/09/04	8.70	30.00	0.00	340,000	—	—	—	—	—	---	---
			02/09/05	7.38	31.32	0.00	50,000	—	—	—	—	—	---	---
			05/10/05	7.36	31.34	0.00	30,000	—	—	—	—	—	---	---
			08/16/05	7.82	30.88	0.00	35,000	—	—	—	—	—	---	---
			11/03/05	8.48	30.22	0.00	18,000	—	—	—	—	—	---	---
			02/22/06	7.80	30.90	0.00	<1,000	—	—	—	—	—	---	—
			06/05/06	6.58	32.12	0.00	26,000	---	<0.5	<0.5	<0.5	<0.6	---	<5
			09/08/06	7.15	31.55	0.00	3,400	—	—	—	—	—	---	—
			11/30/06	7.38	31.32	0.00	2.,000	—	—	—	—	—	---	—
			03/02/07	7.25	31.45	0.00	4,300	---	---	---	---	---	---	---
			06/11/07	7.40	31.30	0.00	5,000	---	---	---	---	---	---	—
			09/18/07	8.05	30.65	0.00	5,200	---	---	---	---	---	---	—
			03/20/08	7.27	31.43	0.00	92,000	---	---	---	---	---	---	—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-2	5-20	38.62	06/10/08	7.44	31.26	0.00	85,000	---	---	---	---	---	---	—
			09/11/08	7.87	30.83	0.00	66,000	---	---	---	---	---	---	—
			12/17/08	7.98	30.72	0.00	29,000	---	---	---	---	---	---	—
			03/19/09	7.32	31.38	0.00	28,000	—	—	—	—	—	---	---
			06/18/09	7.15	31.55	0.00	11,000	—	—	—	—	—	---	---
			09/18/09	8.08	30.62	0.00	8,300	—	—	—	—	—	---	---
			12/17/09	8.07	30.63	0.00	6,400	---	---	---	---	---	---	---
			03/30/10	7.00	31.70	0.00	8,000	---	---	---	---	---	---	---
			06/23/10	6.71	31.99	0.00	3,600	---	---	---	---	---	---	—
			09/16/10	7.35	31.35	0.00	3,500	---	---	---	---	---	---	---
			12/15/10	6.95	31.75	0.00	5,200	---	---	---	---	---	---	---
			03/25/11	6.38	32.32	0.00	6,400	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/23/11	6.70	32.00	0.00	4,600	---	---	---	---	---	---	---
		38.70	09/19/11	6.90	31.80	0.00	4,800	---	---	---	---	---	---	---
			12/16/11	6.90	31.80	0.00	6,800	---	---	---	---	---	---	---
			03/20/12	6.75	31.95	0.00	6,800	---	<0.5	<0.5	<0.5	<0.6	---	<1

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-2		38.70	06/27/12	6.79	31.91	0.00	3,600	---	---	---	---	---	---	---
			09/25/12	7.06	31.64	0.00	3,100	---	---	---	---	---	---	---
			12/19/12	7.10	31.60	0.00	2,900	---	---	---	---	---	---	---
			03/20/13	7.01	31.69	0.00	1,700	---	---	---	---	---	---	---
			06/13/13	7.20	31.50	0.00	2,200	---	---	---	---	---	---	---
			09/16/13	7.58	31.12	0.00	1,800	---	---	---	---	---	---	---
			12/20/13	7.51	31.19	0.00	2.,000	---	---	---	---	---	---	---
			06/21/18	7.88	30.82	0.00	2,600	<50	<0.5	<0.5	<0,.5	<1.5	<10	<0.5
			06/26/19	6.95	31.75	0.00	8,200	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
			09/27/19	7.42	31.28	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5

MW-3	5-20	36.92	06/18/97	7.12	29.80	0.00	<200	--	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/19/97	7.76	29.16	0.00	<200	140	0.74	7.8	<0.5	1.2	---	1.1
		36.90	12/12/97	7.44	29.46	0.00	1,400*	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/19/98	6.15	30.75	0.00	590	170*	<0.5	<0.5	<0.5	<0.5	---	<0.5

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-3	5-20	36.90	06/18/98	6.40	30.50	0.00	600*	<50	<0.5	<0.5	<0.5	<0.5	---	0.7
			09/22/98	7.16	29.74	0.00	----	100	<0.5	1.6	0.8	6.3	---	<0.5
			10/02/98	---	---	0.00	700	----	----	----	----	----	---	----
			12/28/98	7.31	29.59	0.00	400	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/15/99	7.30	29.60	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/15/99	7.50	29.40	0.00	300	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
		39.00	09/15/99	---	---	0.00	<50	<50	<0.5	<0.5	<0.5	<1	---	<0.5
			09/30/99	9.00	30.00	0.00							---	
			12/14/99	8.13	30.87	0.00	<50	<50	<0.5	<0.5	<0.5	<1	---	<0.5
			03/14/00	7.55	31.45	0.00	300	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/14/00	7.76	31.24	0.00	400	<200	<0.5	<0.5	<0.5	<0.5	---	1.1
			09/13/00	8.29	30.71	0.00	200	<200	<0.5	<0.5	<0.5	<0.5	---	---
			12/11/00	8.17	30.83	0.00	300	<200	<0.5	<0.5	<0.5	<0.5	---	1.0
			03/07/01	6.88	32.12	0.00	550	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			05/17/01	6.96	32.04	0.00	770	200	<0.5	<0.5	<0.5	<1	---	<0.5
			08/16/01	7.44	31.56	0.00	530#	—	—	—	—	—	---	—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-3	5-20	39.00	10/10/01	8.02	30.98	0.00	250	—	—	—	—	—	---	----
			01/02/02	8.08	30.92	0.00	<1,000	—	—	—	–	—	---	---
			04/29/02	8.01	30.99	0.00	<200	—	—	—	—	—	---	---
		38.96	07/11/02	8.38	30.62	0.00	<200	—	—	—	—	—	---	---
			10/09/02	10.21	28.79	0.00	<1,000	—	—	—	—	—	---	—
			01/03/03	9.76	29.24	0.00	<1,000	—	—	—	—	—	---	—
			04/16/03	9.08	29.92	0.00	<1,000	—	—	—	—	—	---	—
			07/18/03	8.28	30.72	0.00	<1,000	—	—	—	—	—	---	—
			10/07/03	9.20	29.80	0.00	<1,000	—	—	—	—	—	---	—
			02/18/04	9.44	29.56	0.00	<1,000	----	—	—	—	—	---	—
			04/14/04	9.26	29.74	0.00	<1,000	—	—	—	—	—	---	---
			08/04/04	8.78	30.22	0.00	<1,000	—	—	—	—	—	---	—
			11/09/04	8.74	30.26	0.00	<1,000	—	—	—	—	—	---	---
			02/09/05	7.40	31.60	0.00	<1,000	—	—	—	—	—	---	---
			05/10/05	7.40	31.60	0.00	<1,000	—	—	—	—	—	---	---
			08/16/05	7.80	31.20	0.00	<1,000	—	—	—	—	—	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-3	5-20	38.96	11/03/05	8.44	30.56	0.00	<1,000	—	—	—	—	—	---	---
			02/22/06	7.90	31.10	0.00	<1,000	—	—	—	—	—	---	—
			06/05/06	7.04	31.96	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<5
			09/08/06	7.57	31.43	0.00	<1,000	—	—	—	—	—	---	—
			11/30/06	7.43	31.57	0.00	<1,000	—	—	—	—	—	---	—
			03/02/07	7.62	31.38	0.00	<1,000	---	---	---	---	---	---	---
			06/11/07	7.76	31.24	0.00	<1,000	---	---	---	---	---	---	—
			09/18/07	8.41	31.59	0.00	<1,000	---	---	---	---	---	---	—
			03/20/08	Well Destroyed during Site Renovations									---	
MW-4	5-20	38.86	12/12/97	7.21	29.65	0.00	500*	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/19/98	5.95	30.91	0.00	100	90*	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/18/98	6.12	30.74	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
		38.93	09/22/98	6.87	29.99	0.00	----	100	<0.5	1.3	0.5	2.2	---	2.2
			10/02/98	---	---	0.00	<200	----	----	----	----	----	---	----
			12/28/98	7.13	29.73	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-4	5-20	38.93	03/15/99	6.95	29.91	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/15/99	7.00	29.86	0.00	1,680,000	3,400##	1.5	3.0	23	56	---	6.4
			09/15/99	7.70	31.23	0.00	<50	<50	<0.5	<0.5	<0.5	<1	---	<0.5
			12/14/99	7.93	31.00	0.00	<50	110	<0.5	<0.5	13.9	1.47	---	<0.5
			03/14/00	7.35	31.58	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/14/00	7.50	31.43	0.00	300	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/13/00	8.00	30.93	0.00	<200	<200	<0.5	<0.5	<0.5	0.5	---	---
			12/11/00	7.90	31.03	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/07/01	6.72	32.21	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			05/17/01	6.64	32.29	0.00	<200	<200	<0.5	<0.5	<0.5	<1	---	<0.5
			08/16/01	7.16	31.77	0.00	610	—	—	—	—	—	---	—
			10/10/01	7.62	31.31	0.00	<200	----	----	----	----	----	---	----
			01/02/02	7.82	31.11	0.00	<1 000	—	—	—	—	—	---	---
			04/25/02	7.64	31.29	0.00	850	—	—	—	—	—	---	—
			07/11/02	8.08	30.85	0.00	<200	—	—	—	—	—	---	---
			10/09/02	9.76	29.17	0.00	<1000	—	—	—	—	—	---	—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-4	5-20	38.93	01/03/03	9.38	29.55	0.00	<1,000	—	—	—	—	—	---	—
			04/16/03	8.44	30.49	0.00	<1,000	—	—	—	—	—	---	—
			07/18/03	8.28	30.65	0.00	<1,000	—	—	—	—	—	---	—
			10/07/03	8.96	29.97	0.00	<1,000	—	—	—	—	—	---	—
			02/18/04	8.96	29.97	0.00	<1,000	—	—	—	—	—	---	—
			04/14/04	8.72	30.21	0.00	<1,000	—	—	—	—	—	---	---
			08/04/04	7.96	31.5530.97	0.00	<1,000	—	—	—	—	—	---	—
			11/09/04	7.86	31.07	0.00	<1,000	—	—	—	—	—	---	---
			02/09/05	7.38	31.55	0.00	<1,000	—	—	—	—	—	---	---
			05/10/05	7.28	31.65	0.00	<1,000	—	—	—	—	—	---	---
			08/16/05	7.78	31.15	0.00	<1,000	—	—	—	—	—	---	---
			11/03/05	8.42	30.51	0.00	<1,000	—	—	—	—	—	---	---
			02/22/06	7.09	31.84	0.00	<1,000	—	—	—	—	—	---	—
			06/05/06	6.79	32.14	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<5
			09/08/06	7.30	31.63	0.00	<1,000	—	—	—	—	—	---	—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-4	5-20	38.93	11/30/06	6.68	32.25	0.00	<1,000	—	—	—	—	—	---	—
			03/02/07	7.45	31.48	0.00	<1,000	---	---	---	---	---	---	---
			06/11/07	7.56	31.37	0.00	<1,000	---	---	---	---	---	---	---
			09/18/07	8.14	30.79	0.00	<1,000	---	---	---	---	---	---	—
			03/20/08	6.87	32.06	0.00	<1,000	---	---	---	---	---	---	—
			06/10/08	7.05	31.88	0.00	<1,000	---	---	---	---	---	---	—
			09/11/08	7.49	31.44	0.00	<1,000	---	---	---	---	---	---	—
			12/17/08	Sampling Discontinued										
			03/23/10	---	---	0.00	<1,000	---	---	---	---	---	---	—
			06/11/10	7.20	31.73	0.00	<1,000	---	---	---	---	---	---	---
			09/16/10	6.96	31.97	0.00	<1,000	---	---	---	---	---	---	---
			12/15/10	7.04	31.89	0.00	<1,000	---	---	---	---	---	---	---
			03/25/11	5.95	32.98	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	--	<1
			06/23/11	6.24	32.69	0.00	<1,000	---	---	---	---	---	---	---
			09/19/11	6.55	32.38	0.00	<1,000	---	---	---	---	---	---	---
			12/16/11	6.54	32.39	0.00	<1,000	---	---	---	---	---	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-4	5-20	38.93	03/20/12	6.40	32.53	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/27/12	6.44	32.49	0.00	<1,000	---	---	---	---	---	---	---
			09/25/12	6.64	32.29	0.00	<1,000	---	---	---	---	---	---	---
			12/19/12	6.73	32.20	0.00	<1,000	---	---	---	---	---	---	---
			03/20/13	6.70	32.23	0.00	<1,000	---	---	---	---	---	---	---
			06/13/13	6.95	31.98	0.00	<1000	---	---	---	---	---	---	---
			09/16/13	7.33	31.60	0.00	<1000	---	---	---	---	---	---	---
			12/20/13	7.11	31.82	0.00	<1000	---	---	---	---	---	---	---
			06/21/18	7.52	31.41	0.00	250	<50	<0.5	<0.5	<0.5	<1.5	<10	<0.5
			06/26/19	6.56	32.37	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
			09/27/19	7.05	31.88	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
MW-5	5-20	38.10	12/12/97	8.41	29.69	0.00	500**	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/19/98	5.32	32.78	Sheen	19,000	160*	<0.5	<0.5	<0.5	<0.5	---	1.5
			06/18/98	7.56	30.54	0.00	9,300	200*	<0.5	<0.5	<0.5	<0.5	---	<0.5

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-5	5-20	38.10	09/22/98	9.10	29.00	0.95	----	80	<0.5	0.9	<0.5	1.0	---	<0.5
			12/28/98	8.41	26.69	0.60	Not Sampled - Free Product							
			03/15/99	8.60	29.50	0.70	112,000	200	<0.5	<0.5	<0.5	4.4	---	<0.5
			06/15/99	9.40	28.70	1.50	Not Sampled - Free Product							
		40.23	09/15/99	8.00	32.23	3.00	4,930,000	115,000	<50	<50	<50	494	---	<50
			12/14/99	8.20	32.03	1.17	22,100	2,170	<0.5	<0.5	1.41	10.49	---	<0.5
			03/14/00	8.78	31.45	0.17	8,110,000	2,300	<0.5	<0.5	<0.5	2.1	---	<0.5
			06/14/00	8.85	31.38	0.17	267,000	2,300	<0.5	<0.5	1.4	5.5	---	<0.5
			09/13/00	9.36	30.87	2.50	537,000^	80,000^	<250^	<250^	<250^	310^	---	---
			12/11/00	8.65	31.58	2.00	580,000	2,000	<0.5	<0.5	0.79	1.9	---	<0.5
			03/07/01	8.22	32.01	0.17	1,900,000	1,600	<0.5	<0.5	0.68	3.10	---	<0.5
			05/17/01	8.28	31.95	1.70	67,000	810	<0.5	<0.5	0.64	1.1	---	<0.5
			08/16/01	8.96	31.27	0.13	44,000,000	—	—	—	—	—	---	—
			10/10/01	9.26	30.97	0.02	86,000	—	—	—	—	—	---	—
			01/02/02	9.66	30.57	0.33	25,000,000	—	—	—	—	—	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-5	5-20	40.23	04/25/02	9.28	30.95	0.04	30,000,000	—	—	—	—	—	---	—
			07/11/02	10.26	29.97	0.13	200,000000	—	—	—	—	—	---	---
			10/09/02	11.34	28.89	0.08	82,000,000	—	—	—	—	—	---	—
			01/03/03	10.02	30.21	0.15	Not Sampled - Free Product							
			04/16/03	9.10	31.13	0.21	2,800,000	—	—	—	—	—	---	—
			07/18/03	10.16	30.07	0.17	5,100,000	—	—	—	—	—	---	—
		40.19	10/07/03	9.84	30.35	0.10	4,400,000	—	—	—	—	—	---	—
			02/18/04	9.66	30.53	0.02	2,600,000	—	—	—	—	—	---	---
			04/14/04	10.14	30.05	0.00	560,000	—	—	—	—	—	---	---
			08/04/04	9.16	31.03	0.00	3,100,000	—	—	—	—	—	---	—
			11/09/04	8.66	31.53	0.17	Not Sampled - Free Product							
			02/09/05	7.82	32.37	0.00	18,000	—	—	—	—	—	---	—
			05/10/05	7.60	32.59	0.00	9,600	—	—	—	—	—	---	—
			08/16/05	7.82	32.37	0.00	1,600,000	—	—	—	—	—	---	—
			11/03/05	8.46	31.73	0.00	2,100,000	—	—	—	—	—	---	—
			02/22/06	9.26	30.93	0.00	1,100,000	—	—	—	—	—	---	—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-5	5-20	40.19	06/05/06	8.16	32.03	0.00	56,000	---	<0.5	<0.5	<0.5	<0.6	---	<5
			09/08/06	8.75	31.44	0.00	2,600,000	—	—	—	—	—	---	—
			11/30/06	9.91	30.28	0.00	610,000	—	—	—	—	—	---	—
			03/02/07	8.80	31.39	0.00	580,000	—	—	—	—	—	---	—
			06/11/07	9.07	31.12	0.00	1,200,000	---	---	---	---	---	---	—
			09/18/07	9.85	30.34	0.00	670,000	---	---	---	---	---	---	—
			03/20/08	7.07	33.12	0.00	860,000	---	---	---	---	---	---	—
			06/10/08	7.10	33.09	0.00	1,200,000	---	---	---	---	---	---	—
			09/11/08				Well Inaccessible							
			12/17/08	8.37	31.82	0.83	Not Sampled - Free Product							
			03/19/09	7.87	32.32	0.83	840,000	—	—	—	—	—	---	—
			06/18/09	7.45	32.74	0.00	1,400,000	—	—	—	—	—	---	---
		40.16	09/18/09	8.12	32.04	0.08	Not Sampled - Free Product							
			12/17/09	8.17	31.99	0.01	2,000,000	---	---	---	---	---	---	---
			03/30/10	7.25	32.91	0.00	2,200,000	---	---	---	---	---	---	---
			06/26/10	7.52	32.64	0.33	Not Sampled - Free Product							

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-5	5-20	40.16	09/16/10	7.32	32.84	0.17	Not Sampled Free Product							
			12/15/10	7.44	32.72	0.42	Not Sampled Free Product							
			03/25/11	6.15	34.01	0.04	Not Sampled Free Product							
			06/23/11	6.46	33.70	0.01	Not Sampled Free Product							
			09/19/11	7.08	33.08	0.02	Not Sampled Free Product							
			12/16/11	6.88	33.28	Sheen	Not Sampled Sheen							
			03/20/12	6.91	33.25	0.00	54,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/27/12	6.89	33.27	0.00	130,000	---	---	---	---	---	---	---
			09/25/12	7.12	33.04	Sheen	Not Sampled Sheen							
			12/19/12	7.18	32.98	0.00	150,000	---	---	---	---	---	---	---
			03/20/13	6.70	33.46	0.00	120,000	---	---	---	---	---	---	---
			06/13/13	7.36	32.80	0.00	130,000	---	---	---	---	---	---	---
			09/16/13	7.49	32.67	0.00	110,000	---	---	---	---	---	---	---
			12/20/13	7.30	32.86	0.00	290,000	---	---	---	---	---	---	---
			04/20/18	7.35	32.81	0.00	---	---	---	---	---	---	---	---
			06/21/18	7.46	32.70	0.00	26,000	50	<0.5	<0.5	<0.5	<1.5	<10	<0.5

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-5	5-20	40.16	06/26/19	6.56	33.60	0.00	4,300	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
			09/27/19	6.63	33.53	0.00	5,900	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
MW-6	5-20	38.97	12/12/97	8.52	30.45	0.00	400**	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/19/98	5.25	33.72	0.00	390	120*	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/18/98	8.41	30.56	0.00	300*	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/22/98	8.68	30.29	0.00	----	60	<0.5	0.8	<0.5	0.8	---	3.1
			10/02/98	---	---	---	500	----	----	----	----	----	---	----
			12/28/98	8.41	30.56	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
		40.51	03/15/99	8.30	32.21	0.00	<200	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/15/99	9.31	31.20	0.00	700	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/15/99	9.00	31.51	0.00	<50	<50	<0.5	<0.5	<0.5	<1	---	<0.5
			12/14/99	10.16	30.35	0.00	<50	120	<0.5	<0.5	<0.5	1.77	---	<0.5
			03/14/00	9.65	30.86	0.00	11,000	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/14/00	9.77	30.74	0.00	800	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
		40.15	09/13/00	10.32	29.83	0.00	40,000	600	<0.5	<0.5	<0.5	<0.5	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-6	5-20	40.15	12/11/00	10.15	30.00	0.00	17,000	540	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/07/01	9.17	30.98	0.00	16,000	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			05/17/01	8.04	32.11	0.00	47,000	830	<0.5	<0.5	0.68	1.4	---	<0.5
			08/16/01	9.54	30.61	0.00	19,000	—	—	—	—	—	---	—
			10/10/01	9.92	30.23	0.00	21,000	—	—	—	—	—	---	—
			01/02/02	10.06	30.09	0.00	52,000	---	---	—	—	—	---	—
			04/25/02	9.96	30.19	0.00	3,700	—	—	—	—	—	---	—
			07/11/02	10.28	29.87	0.00	1,400	—	—	—	—	—	---	---
			10/09/02	12.04	28.11	0.00	2,100,000	—	—	—	—	—	---	—
			01/03/03	11.64	28.51	0.00	3,800,000	—	—	—	—	—	---	—
		41.04	04/16/03	10.76	30.28	0.00	290,000	—	—	—	—	—	---	—
			07/18/03	10.38	30.66	0.00	170,000	—	—	—	—	—	---	—
			10/07/03	11.26	29.78	0.00	52,000	—	—	—	—	—	---	—
			02/18/04	9.72	31.32	0.00	17,000	—	—	—	—	—	---	—
			04/14/04	11.18	29.86	0.00	11,000	—	—	—	—	—	---	—
			08/04/04	10.24	30.80	0.00	8,800	—	—	—	—	—	---	—

TABLE 2
Analyses of Groundwater Samples
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-6	5-20	41.04	11/09/04	8.72	32.32	0.00	180,000	—	—	—	—	—	---	---
			02/09/05	8.14	32.90	0.00	270,000	—	—	—	—	---	---	---
			05/10/05	7.58	33.46	0.00	200,000	—	—	—	—	—	---	---
			08/16/05	8.08	32.96	0.00	480,000	—	—	—	—	—	---	---
			11/03/05	8.66	32.38	0.00	480,000	—	—	—	—	—	—	---
			02/22/06	8.57	32.47	0.00	<1,000	—	—	—	—	—	—	—
			06/05/06	9.16	31.88	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	—	<5
			09/08/06	9.32	31.72	0.00	<1,000	—	—	—	—	—	—	—
			11/30/06	9.90	31.14	0.00	<1,000	—	—	—	—	—	—	—
			03/02/07	9.36	31.68	0.00	<1,000	---	---	---	---	---	—	---
			06/11/07	9.82	31.22	0.00	80,000	---	---	---	---	---	—	---
			09/18/07	9.28	31.76	0.00	11,000	---	---	---	---	---	—	—
			03/20/08	8.92	32.12	0.00	6,800	---	---	---	---	---	—	—
			06/10/08	7.10	33.94	0.00	44,000	---	---	---	---	---	—	—
			09/11/08	7.97	33.07	0.00	41,000	---	---	---	---	---	—	—
			12/17/08	8.67	32.37	0.00	22,000	—	—	—	—	—	—	—

TABLE 2
Analyses of Groundwater Samples
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-6	5-20	41.04	03/19/09	7.03	34.01	0.00	16,000	—	—	—	—	—	—	—
			06/18/09	7.30	33.74	0.00	9,600	—	—	—	—	—	—	---
			09/18/09	7.44	33.60	0.00	6,500	—	—	—	—	—	—	---
			12/17/09	7.71	33.33	0.00	13,000	---	---	---	---	---	—	---
			03/30/10	6.72	34.32	0.00	11,000	---	---	---	---	---	—	---
			06/23/10	6.94	34.10	0.00	4,700	---	---	---	---	---	—	—
			09/16/10	7.10	33.94	0.00	<1,000	---	---	---	---	---	—	---
			12/15/10	6.98	34.06	0.00	4,200	---	---	---	---	---	—	---
			03/25/11	6.15	34.89	0.00	3,900	---	<0.5	<0.5	<0.5	<0.6	—	<1
			06/23/11	6.46	34.58	0.00	2,900	---	---	---	---	---	—	---
			09/19/11	6.61	34.43	0.00	2,400	---	---	---	---	---	—	---
			12/16/11	6.68	34.36	0.00	1,600	---	---	---	---	---	—	---
			03/20/12	6.45	34.59	0.00	1,400	---	<0.5	<0.5	<0.5	<0.6	—	<1
			06/27/12	6.53	34.51	0.00	<1,000	---	---	---	---	---	—	---
			09/25/12	6.85	34.19	0.00	<1,000	---	---	---	---	---	—	---
			12/19/12	6.95	34.09	0.00	<1 ,000	---	---	---	---	---	—	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-6	5-20	41.04	03/20/13	7.38	33.66	0.00	<1,000	---	---	---	---	---	—	---
			06/13/13	7.06	33.98	0.00	<1,000	---	---	---	---	---	—	---
			09/16/13	7.36	33.68	0.00	<1,000	---	---	---	---	---	---	---
			12/20/13	7.24	33.80	0.00	<1 ,000	---	---	---	---	---	---	---
			04/20/18	7.41	33.63	0.00	---	---	---	---	---	---	---	---
			6/21/18	7.61	33.43	0.00	3,200	<50	<0.5	<0.5	<0.5	<1.5	<10	<0.5
			6/26/19	6.70	34.34	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
			09/27/19	7.14	33.90	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
MW-7	5-20	39.76	06/15/99	7.90	31.86	0.00	9,500	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/15/99	8.60	31.16	0.00	<50	<50	<0.5	<0.5	<0.5	<1	---	<0.5
			12/14/99	8.73	31.03	0.00	<50	280	<0.5	1.42	7.64	6.91	---	<0.5
			03/14/00	8.20	31.56	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/14/00	8.38	31.38	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/13/00	8.85	30.91	0.00	17,000	<200	<0.5	<0.5	<0.5	<0.5	---	---
			12/11/00	8.78	30.98	0.00	16,000	1,600	<0.5	<0.5	<0.5	0.67	---	<0.5

TABLE 2
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Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-7	5-20	39.76	03/07/01	7.65	32.11	0.00	550	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			05/17/01	7.54	32.22	0.00	<200	<200	<0.5	<0.5	<0.5	<1	---	<0.5
			08/16/01	8.16	31.60	0.00	280	—	—	—	—	—	---	—
			10/10/01	8.56	32.20	0.00	<200	----	----	----	----	----	---	----
			01/02/02	8.68	31.08	0.00	<1000	—	—	—	—	—	---	---
		39.75	04/25/02	9.56	30.19	0.00	<200	—	—	—	—	—	---	—
			07/11/02	8.94	30.81	0.00	<200	—	—	—	—	—	---	---
			10/09/02	10.78	28.97	0.00	<1000	—	—	—	—	—	---	—
			01/03/03	10.24	29.51	0.00	<1,000	—	—	—	—	—	---	—
			04/16/03	9.36	30.39	0.00	<1,000	—	—	—	—	—	---	—
			07/18/03	9.36	30.39	0.00	<1,000	—	—	—	—	—	---	—
			10/07/03	9.86	29.89	0.00	<1,000	—	—	—	—	—	---	—
			02/18/04	9.82	29.93	0.00	<1,000	—	----	—	—	—	---	—
			04/14/04	9.54	30.21	0.00	<1,000	—	—	—	—	—	---	---
			08/04/04	8.97	30.78	0.00	<1,000	—	—	—	—	—	---	—
			11/09/04	8.68	31.07	0.00	<1,000	—	—	—	—	—	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-7	5-20	39.75	02/09/05	8.08	31.67	0.00	<1,000	—	—	—	—	—	---	---
			05/10/05	7.64	32.11	0.00	<1,000	—	—	—	—	—	---	---
			08/16/05	8.14	31.61	0.00	<1,000	—	—	—	—	—	---	---
			11/03/05	8.38	31.37	0.00	17,000	—	—	—	—	—	---	---
			02/22/06	8.26	31.49	0.00	<1,000	—	—	—	—	—	---	—
			06/05/06	7.60	32.15	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<5
			09/08/06	8.12	31.63	0.00	<1,000	—	—	—	—	—	---	—
			11/30/06	8.37	31.38	0.00	<1,000	—	—	—	—	—	---	—
			03/02/07	8.25	31.50	0.00	<1,000	---	---	---	---	---	---	---
			06/11/07	8.38	31.37	0.00	110,000	---	---	---	---	---	---	—
			09/18/07	8.98	30.77	0.00	40,000	---	---	---	---	---	---	—
			03/20/08	7.98	31.77	0.00	80,000	---	---	---	---	---	---	—
			06/10/08	7.53	32.22	0.00	61,000	---	---	---	---	---	---	—
			09/11/08	8.59	31.16	0.00	<1,000	---	---	---	---	---	---	—
			12/17/08	8.86	30.89	0.00	<1,000	—	—	—	—	—	---	—
			03/19/09	8.00	31.75	0.00	<1,000	—	—	—	—	—	---	—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-7	5-20	39.75	06/18/09	8.27	31.48	0.00	<1,000	—	—	—	—	—	---	---
			09/18/09	9.53	30.22	0.00	<1,000	—	—	—	—	—	---	---
			12/17/09	8.72	31.03	0.00	<1,000	---	---	---	---	---	---	---
			03/30/10	7.65	32.10	0.00	<1,000	---	---	---	---	---	---	---
			06/23/10	7.86	31.89	0.00	<1,000	---	---	---	---	---	---	—
			09/16/10	8.08	31.67	0.00	<1,000	---	---	---	---	---	---	---
			12/15/10	7.72	32.03	0.00	<1,000	---	---	---	---	---	---	---
			03/25/11	7.01	32.74	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/23/11	7.36	32.39	0.00	<1,000	---	---	---	---	---	---	---
			09/19/11	7.49	32.26	0.00	<1,000	---	---	---	---	---	---	---
			12/16/11	7.55	32.20	0.00	<1,000	---	---	---	---	---	---	---
			03/20/12	7.41	32.34	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/27/12	7.44	32.31	0.00	<1,000	---	---	---	---	---	---	---
			09/25/12	7.74	32.01	0.00	<1,000	---	---	---	---	---	---	---
			12/19/12	7.83	31.92	0.00	<1,000	---	---	---	---	---	---	---
			03/20/13	7.61	32.14	0.00	<1,000	---	---	---	---	---	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-7	5-20	39.75	06/13/13	7.92	31.83	0.00	<1,000	---	---	---	---	---	---	---
			09/16/13	8.04	31.71	0.00	<1,000	---	---	---	---	---	---	---
			12/20/13	7.95	31.80	0.00	<1,000	---	---	---	---	---	---	---
			6/21/18	8.22	31.53	0.00	1,200	<50	<0.5	<0.5	<0.,5	<1.5	<10	<0.5
			6/26/19	7.53	32.22	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
			9/27/19	7.58	32.17	0.00	<500	<500-	<0.5	<0.5	<0.5	<1.5	<1	<0.5
MW-8	5-20	40.64	06/15/99	8.85	31.79	0.00	200#	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/15/99	9.50	31.14	0.00	<50	<50	<0.5	<0.5	<0.5	<1	---	<0.5
			12/14/99	9.68	30.96	0.00	<50	200	<0.5	<0.5	<0.5	<1	---	<0.5
			03/14/00	9.18	31.46	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			06/14/00	9.34	31.30	0.00	500	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			09/13/00	9.80	30.84	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			12/11/00	9.64	31.00	0.00	340	<200	<0.5	<0.5	<0.5	<0.5	---	<0.5
			03/07/01	8.42	32.22	0.00	<200	<200	<0.5	<0.5	<0.5	<0.5		<0.5

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-8	5-20	40.65	05/17/01	8.62	32.03	0.00	<200	<200	<0.5	<0.5	<0.5	<1	---	<0.5
			08/16/01	9.12	31.53	0.00	810	—	—	—	—	—	---	---
			10/10/01	9.46	31.19	0.00	<200	----	----	----	----	----	---	----
			01/02/02	9.36	31.29	0.00	<1000	—	—	—	—	—	---	---
			04/25/02	9.46	31.19	0.00	<200	—	—	—	—	—	---	—
			07/11/02	8.96	31.69	0.00	<200	—	—	—	—	—	---	---
			10/09/02	11.42	29.23	0.00	<1000	—	—	—	—	–	---	---
			01/03/03	11.14	29.51	0.00	<1,000	—	—	—	—	—	---	—
			04/16/03	10.32	30.33	0.00	<1,000	—	—	—	—	—	---	---
			07/18/03	10.26	30.39	0.00	<1,000	—	—	—	—	—	---	—
			10/07/03	10.82	29.83	0.00	3,600	—	—	—	—	—	---	—
			02/18/04	10.70	29.95	0.00	< 1,000	—	—	—	—	—	---	---
			04/14/04	10.44	30.21	0.00	<1 ,000	—	—	—	—	—	---	---
			08/04/04	9.84	30.81	0.00	<1,000	—	—	—	—	—	---	—
			11/09/04	9.48	31.17	0.00	<1,000	—	—	—	—	—	---	---
			02/09/05	9.02	31.63	0.00	<1,000	—	—	—	—	—	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-8	5-20	40.65	05/10/05	8.53	32.12	0.00	<1,000	—	—	—	—	—	---	---
			08/16/05	8.26	32.39	0.00	<1,000	—	—	—	—	—	---	---
			11/03/05	9.14	31.51	0.00	12,000	—	—	—	—	—	---	---
			02/22/06	9.28	31.37	0.00	<1,000	—	—	—	—	—	---	—
			06/05/06	8.64	32.01	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<5
			09/08/06	9.19	31.46	0.00	<1,000	—	—	—	—	—	---	—
			11/30/06	9.39	31.26	0.00	<1,000	—	—	—	—	—	---	—
			03/02/07	9.31	31.34	0.00	<1,000	---	---	---	---	---	---	---
			06/11/07	9.37	31.28	0.00	<1,000	---	---	---	---	---	---	—
			09/18/07	9.95	30.70	0.00	<1,000	---	---	---	---	---	---	—
			03/20/08	8.76	31.89	0.00	<1,000	---	---	---	---	---	---	—
			06/10/08	8.50	32.15	0.00	<1,000	---	---	---	---	---	---	—
			09/11/08	8.40	32.25	0.00	<1,000	---	---	---	---	---	---	—
			12/17/08	Sampling Discontinued										
			06/23/10	7.74	32.91	0.00	<1,000	---	---	---	---	---	---	—
			09/16/10	7.90	32.75	0.00	<1,000	---	---	---	---	---	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-8	5-20	40.65	12/15/10	7.85	32.80	0.00	<1,000	---	---	---	---	---	---	---
			03/25/11	6.89	33.76	0.00	<1 ,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/23/11	7.23	33.42	0.00	<1,000	---	---	---	---	---	---	---
			09/19/11	7.13	33.52	0.00	<1,000	---	---	---	---	---	---	---
			12/16/11	7.41	33.24	0.00	<1,000	---	---	---	---	---	---	---
			03/20/12	7.22	33.43	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/27/12	7.24	33.41	0.00	<1,000	---	---	---	---	---	---	---
			09/25/12	7.56	33.09	0.00	<1,000	---	---	---	---	---	---	---
			12/19/12	7.79	32.86	0.00	<1,000	---	---	---	---	---	---	---
			03/20/13	7.68	32.97	0.00	<1,000	---	---	---	---	---	---	---
			06/13/13	7.82	32.83	0.00	<1,000	---	---	---	---	---	---	---
			09/16/13	8.20	33.45	0.00	<1,000	---	---	---	---	---	---	---
			12/20/13	8.03	32.62	0.00	<1,000	---	---	---	---	---	---	---
			6/21/18	8.41	32.34	0.00	140	<0.5	<0.5	<0.5	<0.5	<1.5	<10	<0.5
			6/21/19	7.48	33.17	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
			09/27/19	7.96	32.69	0.00	17,000	<500	<0.5	<0.5	<0.5	<1.5	1.9	<0.5

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-9	3-18	41.01	08/04/04	9.46	31.55	0.00	1,500	—	—	—	—	—	---	—
			11/09/04	9.44	31.57	0.00	<1,000	—	—	—	—	—	---	---
			02/09/05	8.38	32.63	0.00	<1,000	—	—	—	—	—	---	---
			05/10/05	9.66	31.35	0.00	<1,000	—	—	—	—	—	---	---
			08/16/05	8.34	32.67	0.00	22,000	—	—	—	—	—	---	---
			11/03/05	9.20	31.81	0.00	840,000	—	—	—	—	—	---	---
			02/22/06	9.78	31.23	0.00	<1,000	—	—	—	—	—	---	—
			06/05/06	9.16	31.85	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6		<5
			09/08/06	9.69	31.32	0.00	<1,000	—	—	—	—	—	---	—
			11/30/06	9.92	31.09	0.00	<1,000	—	—	—	—	—	---	—
			03/02/07	9.47	31.54	0.00	<1,000	---	---	---	---	---	---	---
			06/11/07	9.87	31.14	0.00	<1,000	---	---	---	---	---	---	---
			09/18/07	10.42	30.59	0.00	<1,000	---	---	---	---	---	---	—
			03/20/08	8.61	32.40	0.00	<1,000	---	---	---	---	---	---	—
			06/10/08	8.10	32.91	0.00	290,000	---	---	---	---	---	---	—
			09/11/08	8.23	32.78	0.00	<1,000	---	---	---	---	---		—

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-9	3-18	41.01	12/17/08	8.54	32.47	0.00	<1,000	—	—	—	—	—	---	—
			03/19/09	7.71	33.30	0.00	<1,000	—	—	—	—	—	---	—
			06/18/09	7.94	33.07	0.00	4,500	—	—	—	—	—	---	---
			09/18/09	7.40	33.61	0.00	3,000	—	—	—	—	—	---	---
			12/17/09	8.36	32.65	0.00	4,800	---	---	---	---	---	---	---
			03/30/10	7.40	33.62	0.00	150,000	---	---	---	---	---	---	---
			06/23/10	7.60	33.41	0.00	<1,000	---	---	---	---	---	---	—
			09/16/10	7.80	33.21	0.00	<1,000	---	---	---	---	---	---	---
			12/15/10	7.55	33.46	0.00	<1,000	---	---	---	---	---	---	---
			03/25/11	6.80	34.21	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/23/11	7.14	33.87	0.00	<1,000	---	---	---	---	---	---	---
			09/19/11	7.25	33.76	0.00	<1,000	---	---	---	---	---	---	---
			12/16/11	7.30	33.71	0.00	<1,000	---	---	---	---	---	---	---
			03/20/12	7.14	33.87	0.00	<1,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/27/12	7.19	33.82	0.00	<1,000	---	---	---	---	---	---	---
			09/25/12	7.54	33.47	0.00	<1,000	---	---	---	---	---	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW-9	3-18	41.01	12/19/12	7.60	33.41	0.00	<1,000	---	---	---	---	---	---	---
			03/20/13	7.51	33.50	0.00	<1,000	---	---	---	---	---	---	---
			06/13/13	7.69	33.32	0.00	<1,000	---	---	---	---	---	---	---
			09/16/13	8.14	32.87	0.00	<1,000	---	---	---	---	---	---	---
			12/20/13	7.93	33.08	0.00	<1,000	---	---	---	---	---	---	---
			06/21/18	8.27	32.74	0.00	180	<50	<0.5	<0.5	<0.5	<1.5	<10	<0.5
			06/26/19	7.42	33.59	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
			09/27/19	7.92	33.09	0.00	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.5
MW10	3-18	40.39	08/04/04	9.66	30.73	0.00	2,800,000	—	—	—	—	—	---	—
			11/09/04	8.64	31.75	1.50	Not Sampled - Free Product							
			02/09/05	7.64	32.75	1.33	Not Sampled - Free Product							
			05/10/05	7.56	32.83	0.75	Not Sampled - Free Product							
			08/16/05	7.80	32.59	0.29	Not Sampled - Free Product							
			11/03/05	8.50	31.89	0.00	16,000	—	—	—	—	—	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW10	3-18	40.39	02/22/06	8.74	31.65	0.00	260,000	—	—	—	—	—	---	—
			06/05/06	8.41	31.98	0.00	23,000	—	<0.5	<0.5	<0.5	<0.6	---	<5
			09/08/06	9.10	31.29	0.00	3,200,000	—	—	—	—	—	---	—
			11/30/06	9.15	31.24	0.00	24,000	—	—	—	—	—	---	—
			03/02/07	8.80	31.59	0.00	84,000	---	---	---	---	---	---	---
			06/11/07	9.11	31.28	0.00	210,000	---	---	---	---	---	---	---
			09/18/07	9.87	30.52	0.00	1,200,000	---	---	---	---	---	---	—
			03/20/08	8.67	31.72	1.17	Not Sampled - Free Product							
			06/10/08	8.32	32.07	1.17	Not Sampled - Free Product							
			09/11/08	8.98	31.41	1.00	Not Sampled - Free Product							
			12/17/08	8.75	31.64	2.00	Not Sampled - Free Product							
			03/19/09	7.93	32.46	0.67	Not Sampled - Free Product							
			06/18/09	8.25	32.14	0.83	Not Sampled - Free Product							
			09/18/09	8.45	31.94	1.17	Not Sampled - Free Product							
			12/17/09	8.53	31.86	1.17	Not Sampled- Free Product							
			03/30/10	7.49	32.90	1.00	Not Sampled- Free Product							

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW10	3-18	40.39	06/23/10	7.20	33.19	1.00	Not Sampled- Free Product							
			09/16/10	7.35	33.04	0.50	Not Sampled - Free Product							
			12/15/10	7.18	33.21	0.75	Not Sampled - Free Product							
			03/25/11	6.98	33.41	0.50	Not Sampled - Free Product							
			06/23/11	7.33	33.06	0.00	<1,000	---	---	---	---	---	---	---
			09/19/11	7.61	32.78	0.02	Not Sampled - Free Product							
			12/16/11	6.84	33.55	Sheen	Not Sampled Sheen							
			03/20/12	6.85	33.54	0.00	140,000	---	<0.5	<0.5	<0.5	<0.6	---	<1
			06/27/12	7.13	33.26	0.00	260,000	---	---	---	---	---	---	---
			09/25/12	7.50	32.89	0.02	Not Sampled - Free Product ---							
			12/19/12	7.64	32.75	0.00	310,000	---	---	---	---	---	---	---
			03/20/13	7.45	32.94	0.00	870,000	---	---	---	---	---	---	---
			06/13/13	7.99	32.40	0.08	Not Sampled - Free Product							
			09/16/13	8.02	32.37	0.04	Not Sampled - Free Product							
			12/20/13	7.13	33.26	0.00	610,000	---	---	---	---	---	---	---
			04/20/18	7.55	32.84	0.00	---	---	---	---	---	---	---	---

TABLE 2
Analyses of Groundwater Samples
Fountain Valley Medical Center
OCHCA Case #96UT21

Well ID	Screen Interval (ft bgs)	TOC Elevation (ft)*	DATE	GW Depth (ft)	GW Elevation	FP (ft)	TPHd (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Napthalene (ug/l)	MTBE (ug/l)
MW10	3-18	40.39	06/21/18	7.70	32.69	Sheen	1,800,000	<500	<5.0	<5.0	<5.0	<15	<100	<5.0
			06/26/19	6.82	33.57	Sheen	40,000	<500	0.65	<0.5	<0.5	<1.5	11	<0.5
			09/27/19	7.35	33.04	0.02	130,000	2,700#	<0.5	<0.5	<0.5	<1.5	13	<0.5

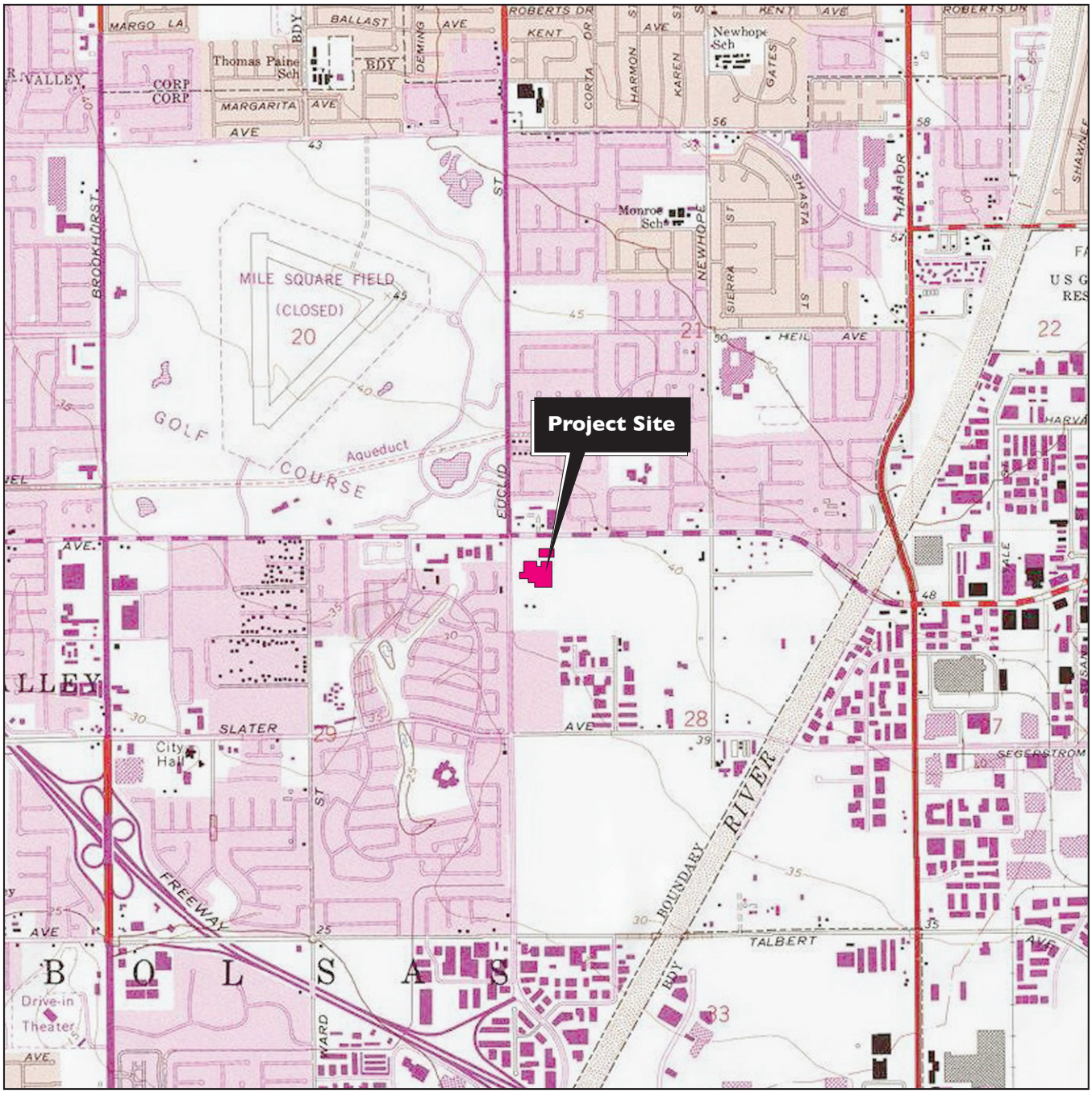
Sample results in parts per billion (ppb - ug/L) - unless otherwise noted
TPHd = total petroleum hydrocarbon as diesel
TPHg = total petroleum hydrocarbon as gasoline
B = benzene T = toluene E = ethyl benzene X = xylene
MTBE = methyl tertiary butyl ether
TPHd analyzed by EPA Method 8015M
*** The sample contains hydrocarbons heavier than diesel**
**** The sample contains hydrocarbons lighter and heavier than diesel**
FP - Free Product
 # - Results in the gasoline range are primarily due to overlap from a diesel range product

TABLE 3
Soil Vapor Analytical Results

Sample ID	Depth (ft)	Date	TPHg (ug/l)	TPHd (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl benzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	Naph thalene (ug/l)	Oxygen (%)	1,2,4-Trimethyl benzene (ug/l)	Additional VOCs	Laboratory
SV1	1	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
	5	3/30/2012	Sample not collected due to groundwater in sampling train											
SV2	1	3/30/2012	Sample not collected due to groundwater in sampling train											
	5	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
SV3	1	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
	5	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
SV4	1	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
	5	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
SV5	1	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
	4	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
SV6	1	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
	5	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
SV7	1	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
	5	3/30/2012	<4.0	--	<0.02	<0.02	<0.02	<0.04	<0.02	<0.05	--	ND	ND	CTEL
P1	5	2/7/2020	<40	<10	<0.02	<0.20	<0.10	<0.20	<0.20	<0.02	13	<0.10	ND	H&P
P2	5	2/7/2020	<40	<10	<0.02	<0.20	<0.10	<0.20	<0.20	<0.02	12	0.12	ND	H&P
P3	5	2/7/2020	<40	12	<0.02	<0.20	<0.10	<0.20	<0.20	<0.02	6.5	0.12	ND	H&P
P4 (P4-rep)	5	2/7/2020	<40 (<40)	11 (15)	<0.02 (<0.02)	<0.20 (<0.02)	0.11 (<0.10)	<0.20 (<0.20)	<0.20 (<0.20)	<0.02 (<0.20)	6.3 (6.1)	0.16 (0.12)	ND ND	H&P
P5	5	2/7/2020	<40	<10	<0.02	<0.20	0.15	0.10	<0.20	<0.02	4.9	<0.10	ND	H&P

VOCs analyzed by EPA Method TO-15/EPA Method 8260SV | Oxygen analyzed by ASTM Method 1945
TPHg analyzed by EPA Method TO3/EPA Method 8260SV | TPHd Analyzed by EPA Method TO17
Sample results in parentheses represent replicate sample results
CTEL - Cal Tech Environmental Laboratories
H&P - H&P Mobile Geochemistry Inc.

PLATES



Notes:
1) The base map was taken from USGS 7.5 Minute Newport Beach, California Topographic Quadrangle, 1965, photorevised 1972.
2) All locations and dimensions are approximate.

0 1000 2000 3000

Approximate Graphic Scale:
One Inch Equals 2000 Feet

North

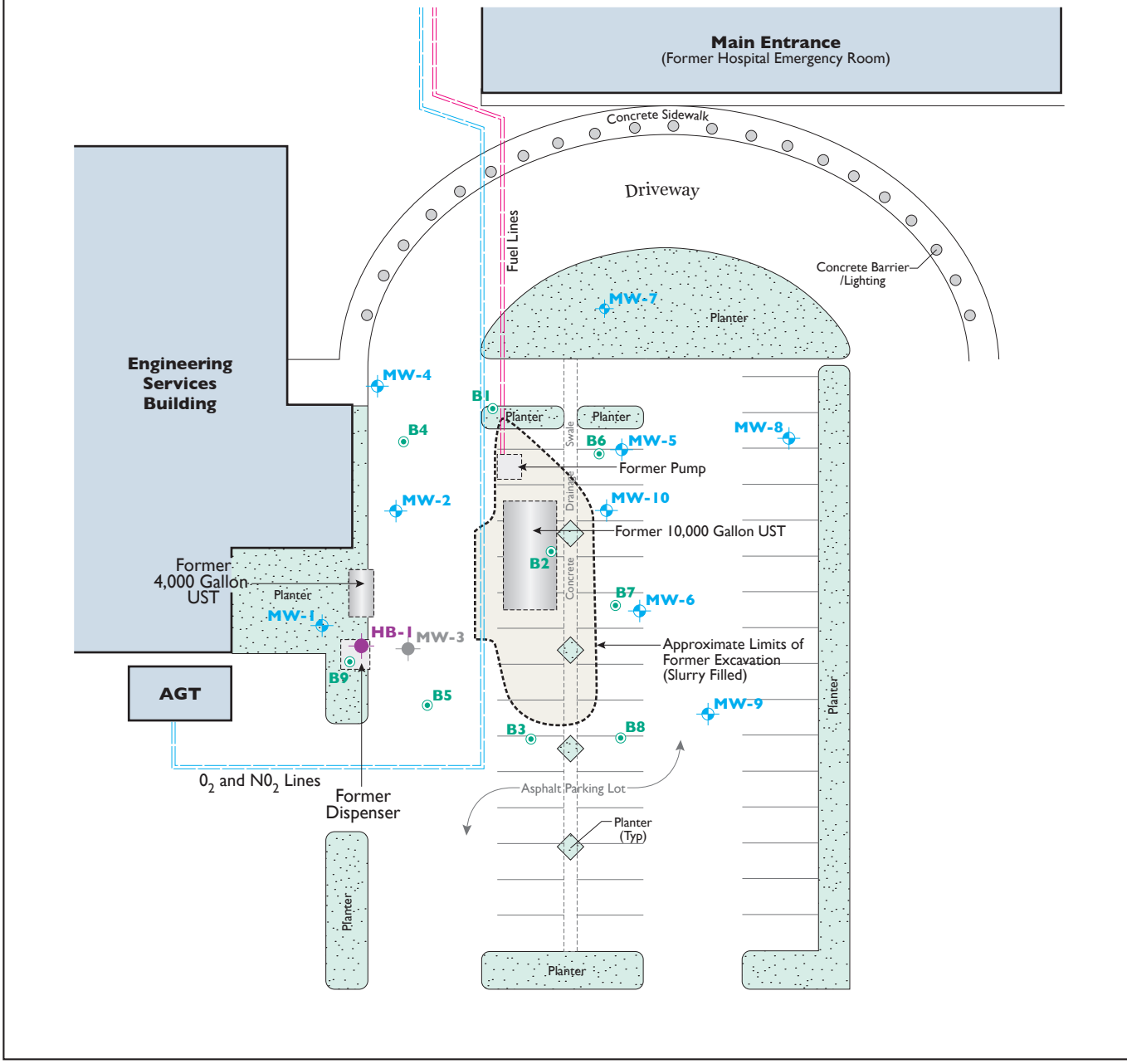
C. JAMES & ASSOCIATES, INC.
Environmental Consultants

Client:
Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California

SITE LOCATION MAP

Plate 1

Drawn By: H.L.	Approved By: H.H.	Project Number: 01085	Date: April 2020



EXPLANATION

MW-10 — Location and designation of groundwater monitoring well.

MW-3 — Location and designation of destroyed monitoring well during 2008 parking lot construction

B9 — Location and designation of soil borings.

HB-1 — Location and designation of hand augered boring.

0 20 40 60

Approximate Graphic Scale:
One Inch Equals 40 Feet

North

Notes:
1. All locations are approximate.
2. Well locations were updated 6/10/08 during June 10, 2008 sampling.

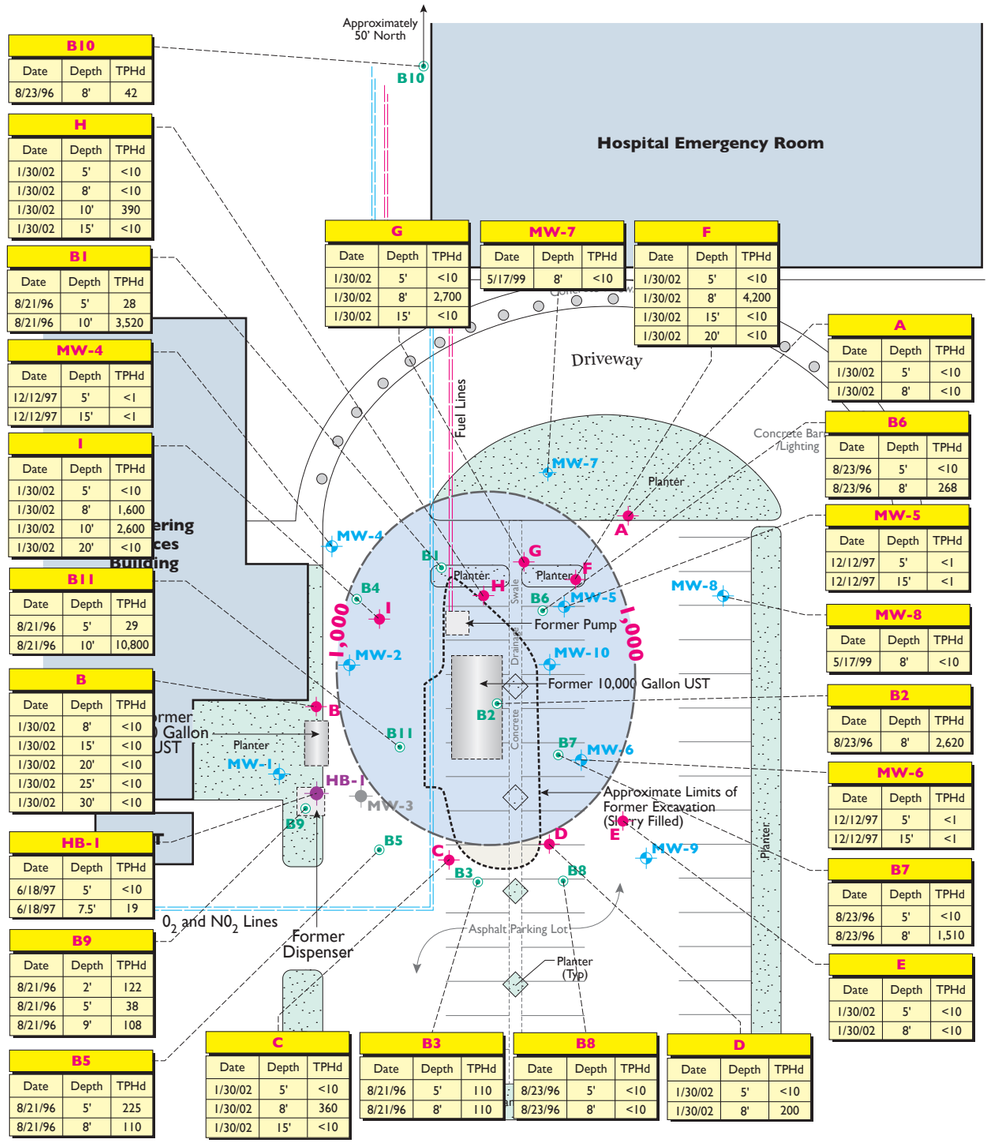
C. JAMES & ASSOCIATES, INC.
Environmental Consultants

Client:
Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California

SITE PLAN WITH SOIL BORINGS AND GROUNDWATER MONITORING WELLS

Plate 2

Drawn By: H.L.	Approved By: H.H.	Project Number: 01085	Date: April 2020



B10		
Date	Depth	TPHd
8/23/96	8'	42

H		
Date	Depth	TPHd
1/30/02	5'	<10
1/30/02	8'	<10
1/30/02	10'	390
1/30/02	15'	<10

B1		
Date	Depth	TPHd
8/21/96	5'	28
8/21/96	10'	3,520

MW-4		
Date	Depth	TPHd
12/12/97	5'	<1
12/12/97	15'	<1

I		
Date	Depth	TPHd
1/30/02	5'	<10
1/30/02	8'	1,600
1/30/02	10'	2,600
1/30/02	20'	<10

B11		
Date	Depth	TPHd
8/21/96	5'	29
8/21/96	10'	10,800

B		
Date	Depth	TPHd
1/30/02	8'	<10
1/30/02	15'	<10
1/30/02	20'	<10
1/30/02	25'	<10
1/30/02	30'	<10

HB-1		
Date	Depth	TPHd
6/18/97	5'	<10
6/18/97	7.5'	19

B9		
Date	Depth	TPHd
8/21/96	2'	122
8/21/96	5'	38
8/21/96	9'	108

B5		
Date	Depth	TPHd
8/21/96	5'	225
8/21/96	8'	110

G		
Date	Depth	TPHd
1/30/02	5'	<10
1/30/02	8'	2,700
1/30/02	15'	<10

MW-7		
Date	Depth	TPHd
5/17/99	8'	<10

F		
Date	Depth	TPHd
1/30/02	5'	<10
1/30/02	8'	4,200
1/30/02	15'	<10
1/30/02	20'	<10

A		
Date	Depth	TPHd
1/30/02	5'	<10
1/30/02	8'	<10

B6		
Date	Depth	TPHd
8/23/96	5'	<10
8/23/96	8'	268

MW-5		
Date	Depth	TPHd
12/12/97	5'	<1
12/12/97	15'	<1

MW-8		
Date	Depth	TPHd
5/17/99	8'	<10

B2		
Date	Depth	TPHd
8/23/96	8'	2,620

MW-6		
Date	Depth	TPHd
12/12/97	5'	<1
12/12/97	15'	<1

B7		
Date	Depth	TPHd
8/23/96	5'	<10
8/23/96	8'	1,510

E		
Date	Depth	TPHd
1/30/02	5'	<10
1/30/02	8'	<10

C		
Date	Depth	TPHd
1/30/02	5'	<10
1/30/02	8'	360
1/30/02	15'	<10

B3		
Date	Depth	TPHd
8/21/96	5'	110
8/21/96	8'	110

B8		
Date	Depth	TPHd
8/23/96	5'	<10
8/23/96	8'	<10

D		
Date	Depth	TPHd
1/30/02	5'	<10
1/30/02	8'	200

EXPLANATION

MW-10 — Location and designation of groundwater monitoring well.

MW-3 — Location and designation of destroyed monitoring well during 2008 parking lot construction.

B11 — Location and designation of soil borings.

HB-1 — Location and designation of hand augered boring.

A — Location and designation of soil borings (January 30, 2002).

1,000 — Contour of total petroleum hydrocarbon concentration as diesel in milligrams per kilogram (mg/kg). Dashed Where Inferred.

B7 — Soil sample result for TPHd (diesel) with date, depth below grade and result reported in milligrams per kilogram (mg/kg).

B7		
Date	Depth	TPHd
8/23/96	5'	<10
8/23/96	8'	1,510

Notes:
1. All locations are approximate.
2. Well locations were updated 6/10/08 during June 10, 2008 sampling.

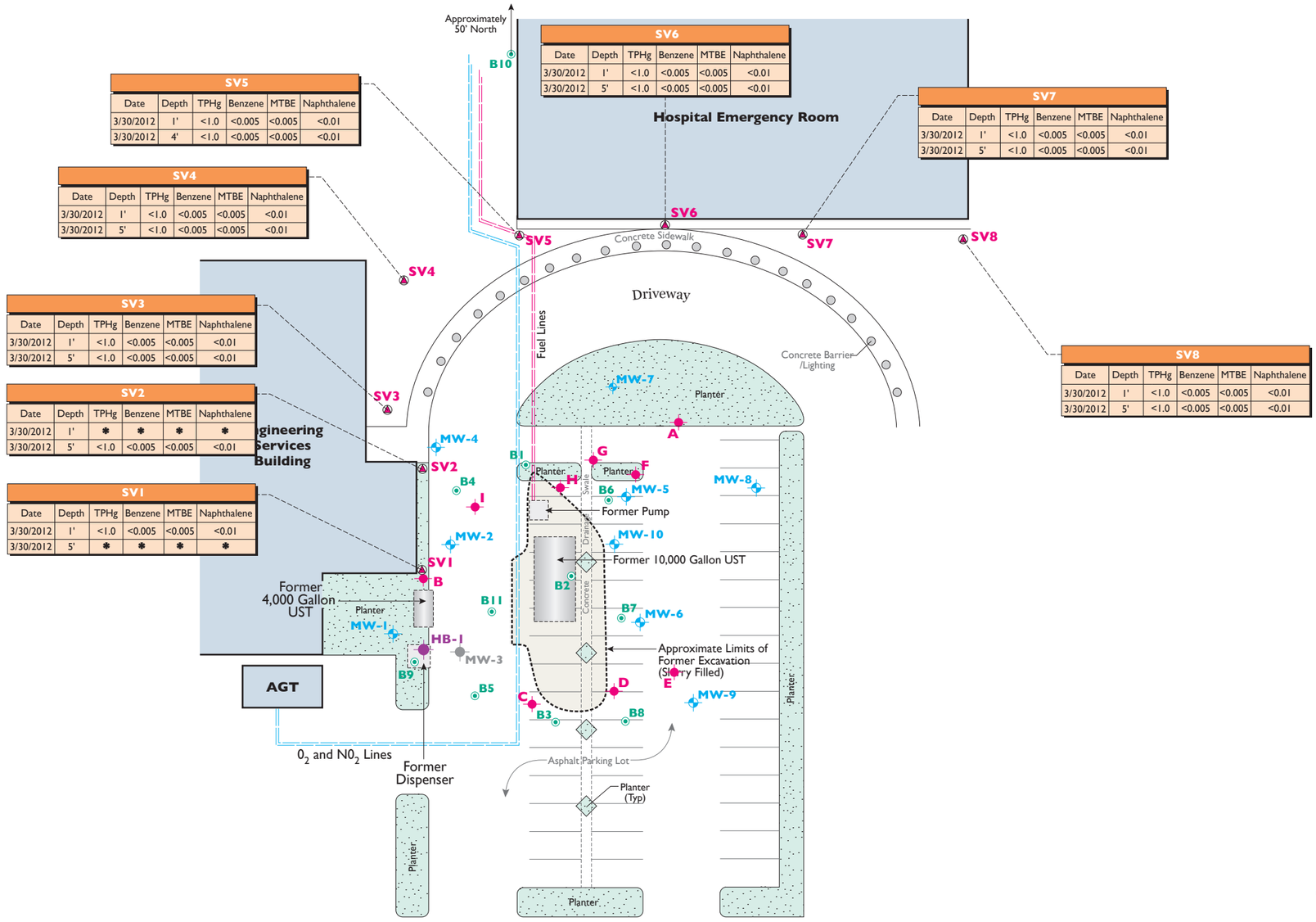
C. JAMES & ASSOCIATES, INC. Environmental Consultants

Client:
Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California

SITE PLAN WITH TPHd ANALYTICAL RESULTS IN SOIL IN MILLIGRAMS PER KILOGRAM (mg/kg) 1996-2020

Plate 3

Drawn By: H.L.	Approved By: H.H.	Project Number: 01085	Date: April 2020



SV5					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	<1.0	<0.005	<0.005	<0.01
3/30/2012	4'	<1.0	<0.005	<0.005	<0.01

SV6					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	<1.0	<0.005	<0.005	<0.01
3/30/2012	5'	<1.0	<0.005	<0.005	<0.01

SV7					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	<1.0	<0.005	<0.005	<0.01
3/30/2012	5'	<1.0	<0.005	<0.005	<0.01

SV8					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	<1.0	<0.005	<0.005	<0.01
3/30/2012	5'	<1.0	<0.005	<0.005	<0.01

SV4					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	<1.0	<0.005	<0.005	<0.01
3/30/2012	5'	<1.0	<0.005	<0.005	<0.01

SV3					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	<1.0	<0.005	<0.005	<0.01
3/30/2012	5'	<1.0	<0.005	<0.005	<0.01

SV2					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	*	*	*	*
3/30/2012	5'	<1.0	<0.005	<0.005	<0.01

SV1					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	<1.0	<0.005	<0.005	<0.01
3/30/2012	5'	*	*	*	*

EXPLANATION

- MW-10 — Location and designation of groundwater monitoring well.
- MW-3 — Location and designation of destroyed monitoring well during 2008 parking lot construction.
- B11 — Location and designation of soil borings.
- HB-1 — Location and designation of hand augered boring.
- A — Location and designation of soil vapor probe by C. James & Associates, Inc.
- SV8 — Location and designation of soil vapor probe by C. James & Associates, Inc.

SV1					
Date	Depth	TPHg	Benzene	MTBE	Naphthalene
3/30/2012	1'	<1.0	<0.005	<0.005	<0.01
3/30/2012	5'	*	*	*	*

Soil vapor result for analyte listed with date, depth below grade and result reported in parts per millon by volume (ppmv). Asterisk indicates sample not collected due to groundwater in sampling train.

Notes:
1. All locations are approximate.
2. Well locations were updated 6/10/08 during June 10, 2008 sampling.

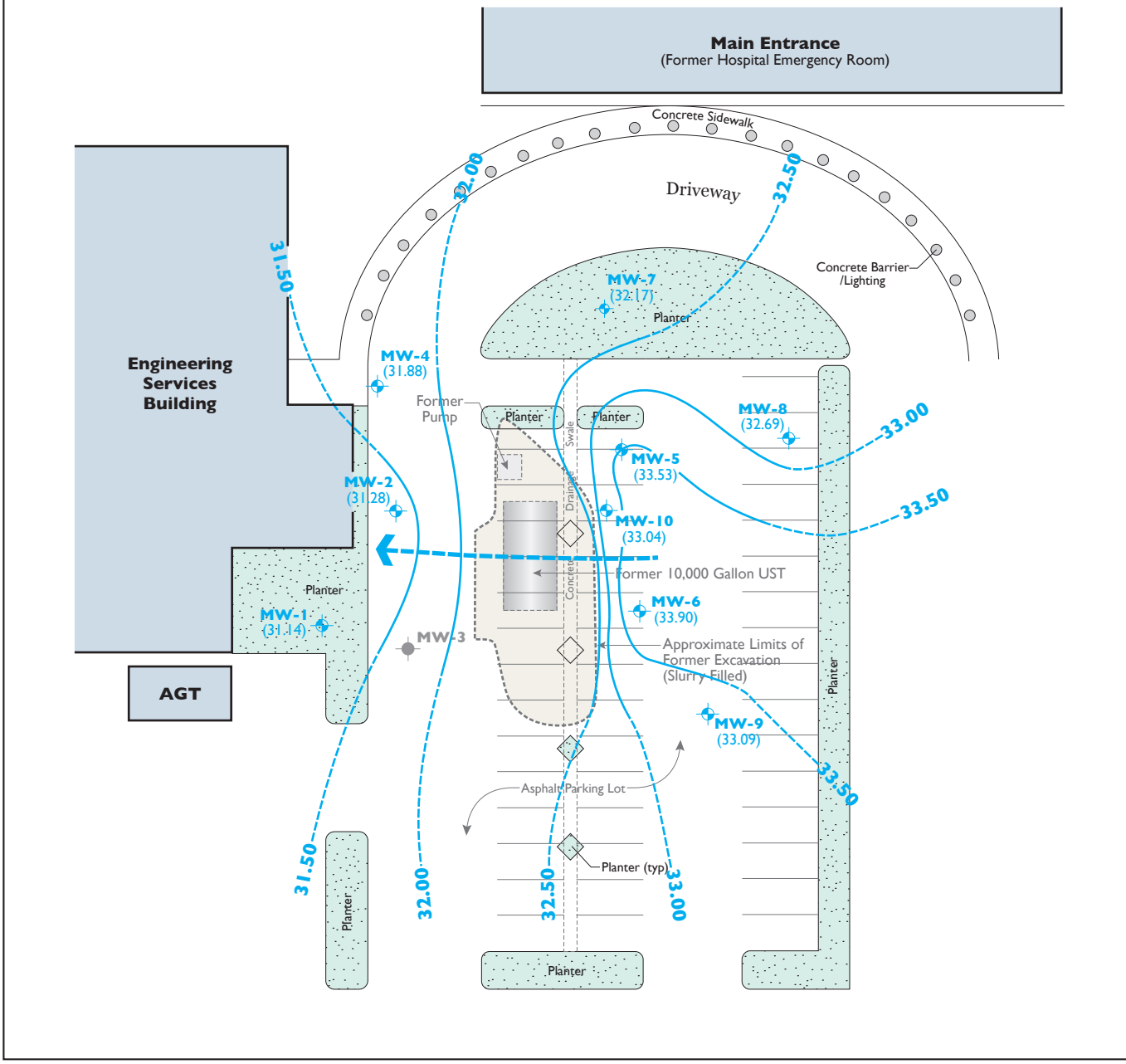
C. JAMES & ASSOCIATES, INC.
Environmental Consultants

Client:
Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California

SITE PLAN WITH SOIL VAPOR ANALYTICAL RESULTS IN PARTS PER MILLION BY VOLUME (ppmv) MARCH 30, 2002

Plate 4

Drawn By: H.L.	Approved By: H.H.	Project Number: 01085	Date: April 2020



EXPLANATION

MW-10 — Location and Designation of Groundwater Monitoring Well

MW-3 — Location and Designation of Destroyed Monitoring Well During 2008 Parking Lot Construction

(33.90) — Groundwater Elevation in Feet Above Mean Sea Level.

33.50 — Groundwater Elevation Contour in Feet Above Mean Sea Level. Dashed Where Inferred.

Estimated Direction of Groundwater Flow.

Notes:
1. All locations are approximate.
2. Well locations were updated 6/10/08 during June 10, 2008 sampling.

0 20 40 60
Approximate Graphic Scale:
One Inch Equals 40 Feet

North

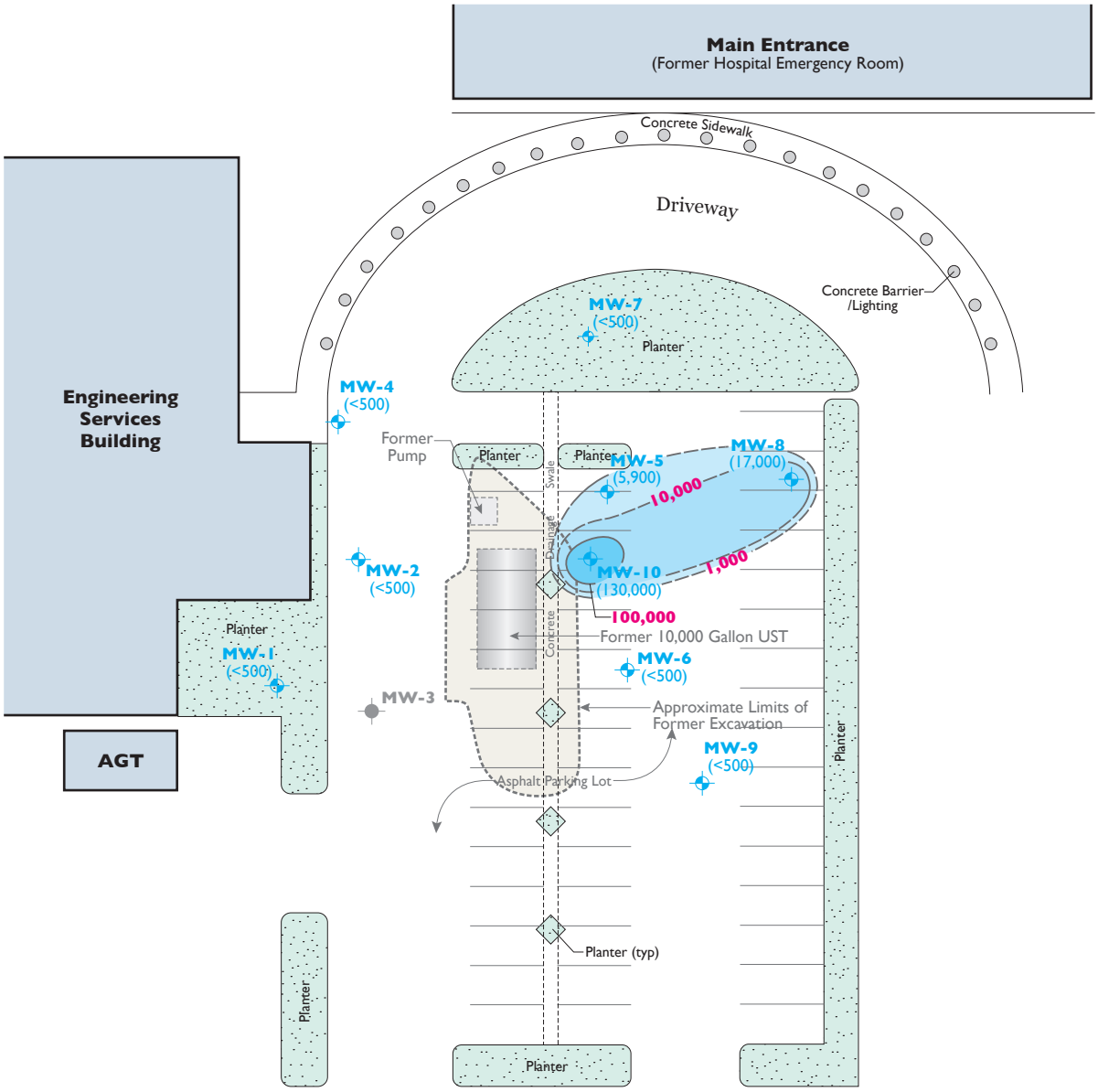
C. JAMES & ASSOCIATES, INC.
Environmental Consultants

Client:
Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California

SITE PLAN WITH GROUNDWATER ELEVATIONS AND GENERAL DIRECTION OF GROUNDWATER FLOW ON SEPTEMBER 27, 2019

Plate 5

Drawn By: H.L.	Approved By: H.H.	Project Number: 01085	Date: April 2020



EXPLANATION

MW-10 — Location and Designation of Groundwater Monitoring Well

MW-3 — Location and Designation of Destroyed Monitoring Well During 2008 Parking Lot Construction

10,000 — Contour of Total Petroleum Hydrocarbon Concentration as Diesel in Micrograms Per Liter (µg/l). Dashed Where Inferred.

(17,000) — Total Petroleum Hydrocarbon Concentration as Diesel in Groundwater in Micrograms Per Liter (µg/l).

Notes:
1. All locations are approximate.
2. Well locations were updated 6/10/08 during June 10, 2008 sampling.

0 20 40 60
Approximate Graphic Scale:
One Inch Equals 40 Feet

North

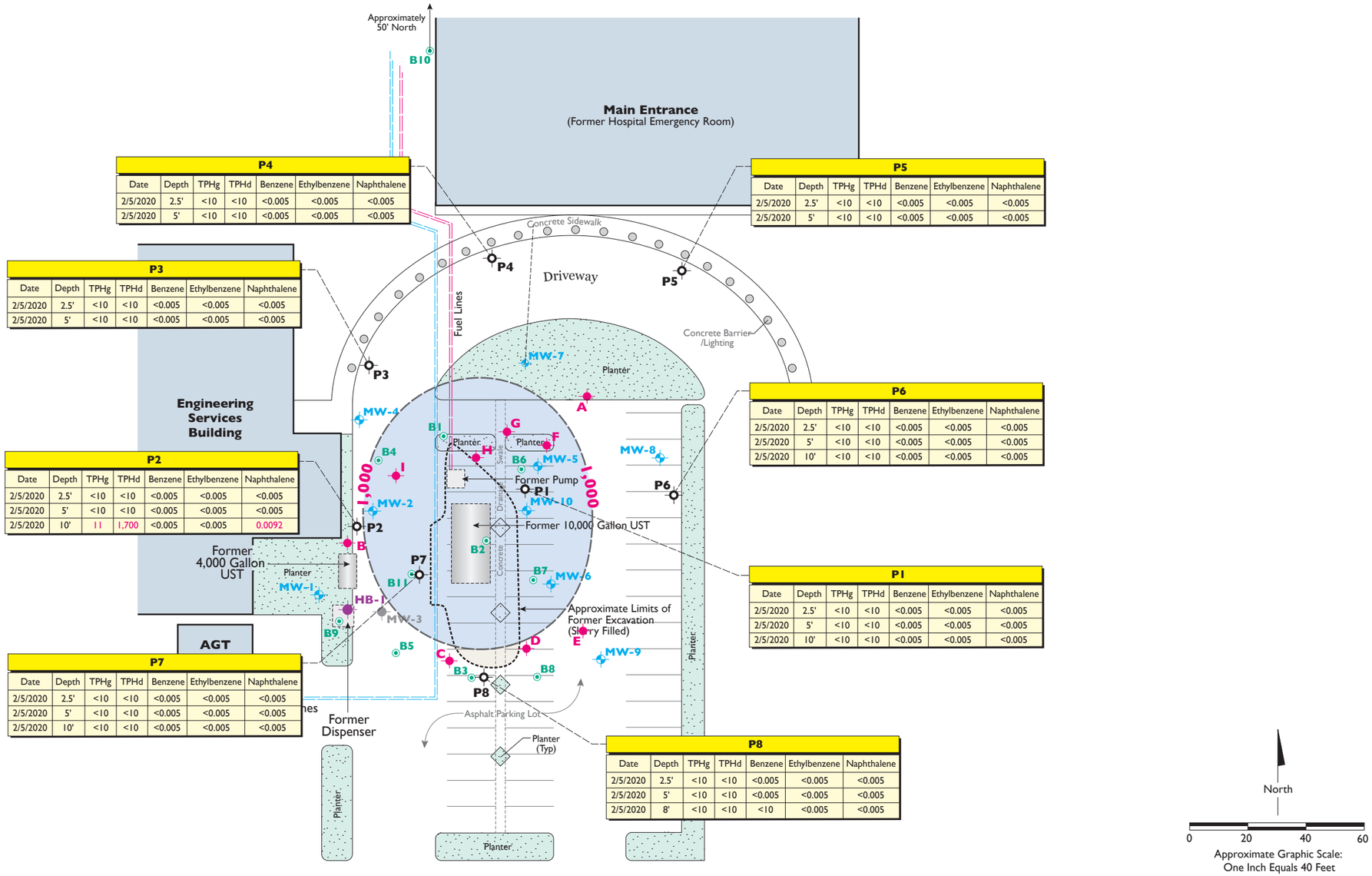
C. JAMES & ASSOCIATES, INC.
Environmental Consultants

Client:
Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California

SITE PLAN WITH TOTAL PETROLEUM HYDROCARBON CONCENTRATIONS AS DIESEL IN GROUNDWATER ON SEPTEMBER 27, 2019

Plate 6

Drawn By: H.L.	Approved By: H.H.	Project Number: 01085	Date: April 2020



P4

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	5'	<10	<10	<0.005	<0.005	<0.005

P5

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	5'	<10	<10	<0.005	<0.005	<0.005

P3

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	5'	<10	<10	<0.005	<0.005	<0.005

P6

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	10'	<10	<10	<0.005	<0.005	<0.005

P2

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	10'	11	1,700	<0.005	<0.005	0.0092

P1

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	10'	<10	<10	<0.005	<0.005	<0.005

P7

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	10'	<10	<10	<0.005	<0.005	<0.005

P8

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	8'	<10	<10	<10	<0.005	<0.005

EXPLANATION

- MW-10 — Location and designation of groundwater monitoring well.
- MW-3 — Location and designation of destroyed monitoring well during 2008 parking lot construction.
- B11 — Location and designation of soil borings.
- HB-1 — Location and designation of hand augered boring.
- A — Location and designation of soil borings (January 30, 2002).
- 1,000 — Contour of total petroleum hydrocarbon concentration as diesel in milligrams per kilogram (mg/kg). Dashed Where Inferred.
- P8 — Location and designation of well soil and soil vapor sample

P8

Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/5/2020	2.5'	<10	<10	<0.005	<0.005	<0.005
2/5/2020	10'	<10	<10	<0.005	<0.005	<0.005

Soil analyte result listed with date, depth below grade and result reported in milligrams per kilogram (mg/kg)

Notes:
1. All locations are approximate.
2. Well locations were updated 6/10/08 during June 10, 2008 sampling.

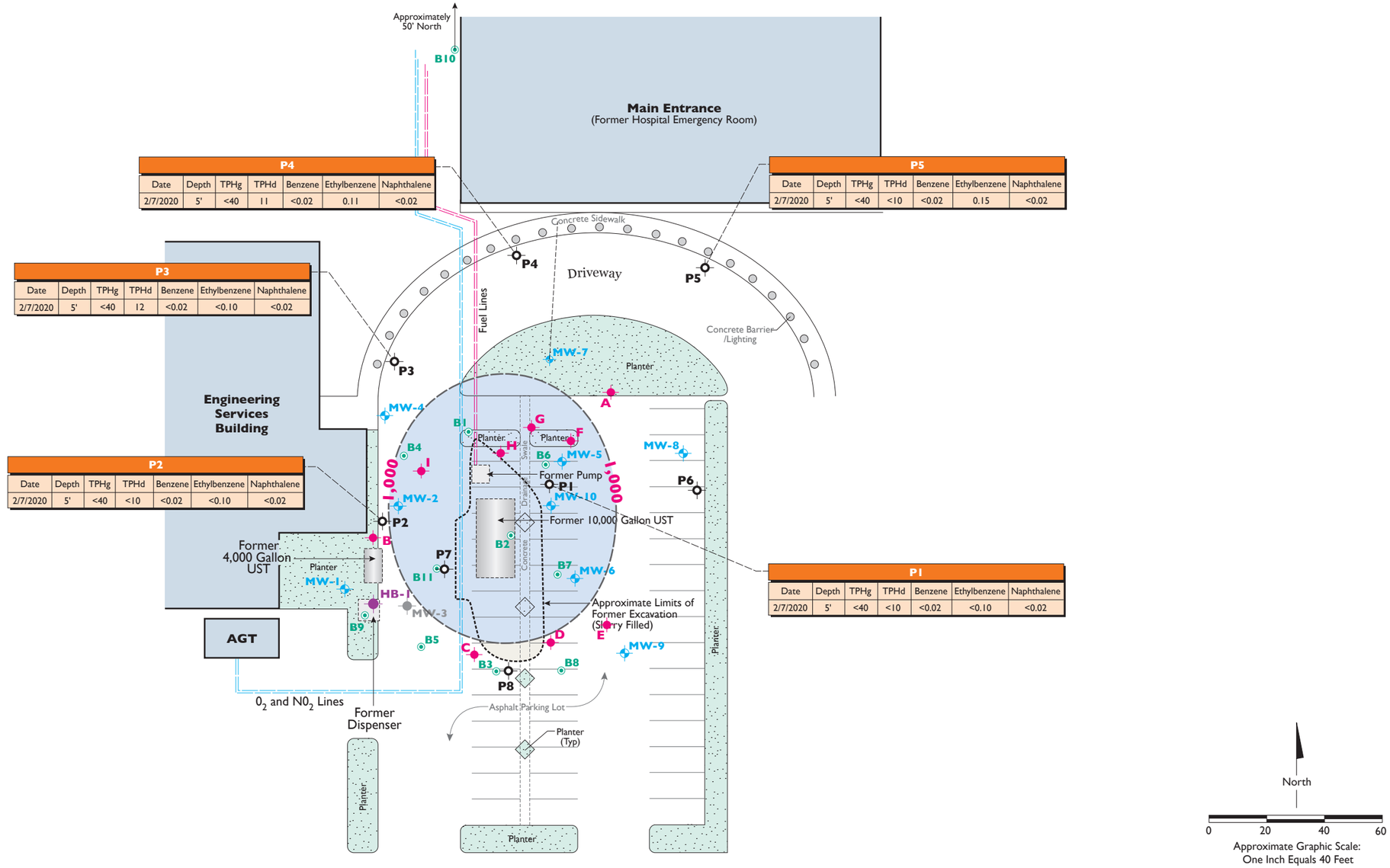
C. JAMES & ASSOCIATES, INC.
Environmental Consultants

Client:
Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California

SITE PLAN SHOWING LOCATIONS OF SOIL AND SOIL VAPOR SAMPLES WITH SOIL ANALYTICAL RESULTS FEBRUARY 5, 2020

Plate 7

Drawn By: H.L.	Approved By: H.H.	Project Number: 01085	Date: April 2020



P4						
Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/7/2020	5'	<40	11	<0.02	0.11	<0.02

P5						
Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/7/2020	5'	<40	<10	<0.02	0.15	<0.02

P3						
Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/7/2020	5'	<40	12	<0.02	<0.10	<0.02

P2						
Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/7/2020	5'	<40	<10	<0.02	<0.10	<0.02

P1						
Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/7/2020	5'	<40	<10	<0.02	<0.10	<0.02

EXPLANATION

- MW-10 — Location and designation of groundwater monitoring well.
- MW-3 — Location and designation of destroyed monitoring well during 2008 parking lot construction.
- B11 — Location and designation of soil borings.
- HB-1 — Location and designation of hand augered boring.
- A — Location and designation of soil borings (January 30, 2002).
- 1,000 — Contour of total petroleum hydrocarbon concentration as diesel in milligrams per kilogram (mg/kg). Dashed Where Inferred.
- P8 — Location and designation of well soil and soil vapor sample

P5						
Date	Depth	TPHg	TPHd	Benzene	Ethylbenzene	Naphthalene
2/7/2020	5'	<40	<10	<0.02	0.15	<0.02

Soil vapor result for analyte listed with date, depth below grade and result reported in parts per millon by volume (ppmv).

Notes:
1. All locations are approximate.
2. Well locations were updated 6/10/08 during June 10, 2008 sampling.

C. JAMES & ASSOCIATES, INC.
Environmental Consultants

Client:
Fountain Valley Regional Hospital
17100 Euclid Street
Fountain Valley, California

SITE PLAN SHOWING LOCATIONS OF SOIL AND SOIL VAPOR SAMPLES WITH VAPOR ANALYTICAL RESULTS

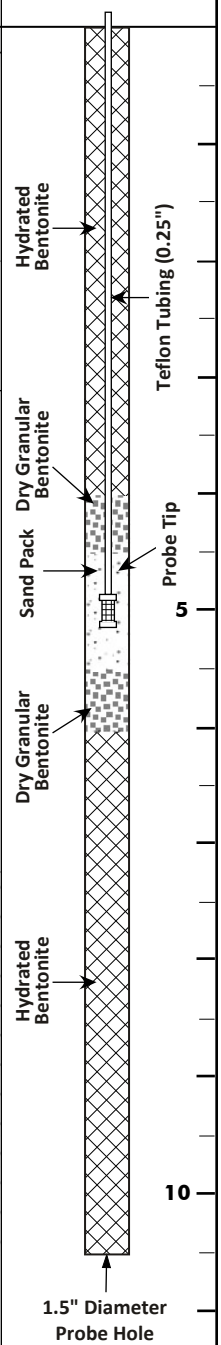
Plate 4

Drawn By: H.L.	Approved By: H.H.	Project Number: 01085	Date: March 2020

APPENDIX A

Lithologic Logs

Depth (feet)	Interval	Sample I.D.	OVA (ppm)	Geologic Description Color, grain size, moisture, density, odor, etc.	USCS Symbol
0					
				Asphalt (3-inches)	
				Sandy Gravel (Base); dry, dense, no odor or staining	GP
		P1-2.5'	--	**Silt;** olive green, slightly damp, soft, no odor or staining	ML
5		P1-5'	--	**Silty Sand;** olive green, fine grained, slightly damp, loose, no odor or staining	SM
					SP
10		P1-10'	--	**Sand;** dark gray, fine to medium grained, wet, loose, slight petroleum hydrocarbon odor	
				Boring terminated at 10' bgs Vapor probe set at 5' bgs (2/5/2020 @ 13:25) Soil gas sample P1-5' collected 2/7/2020 @ 14:15	



Date Drilled: 2/5/2020
Logged By: S. Green
Driller: H&P Mobile Geochemistry
Boring Type: Strataprobe

Boring Diameter: 1.5 inch
Casing Diameter: N.A.
Boring Depth: 10 feet
Water Depth: ± 8 feet

Probe Depth: 5 feet.
Sand Pack Interval: 4.5 - 5.5 feet
Dry Bentonite Interval: 4 - 4.5 feet/5.5 - 6 feet
Hydrated Bentonite Interval: 0 - 4 feet/6 - 10 feet

C. JAMES & ASSOCIATES, INC. Environmental Consultants

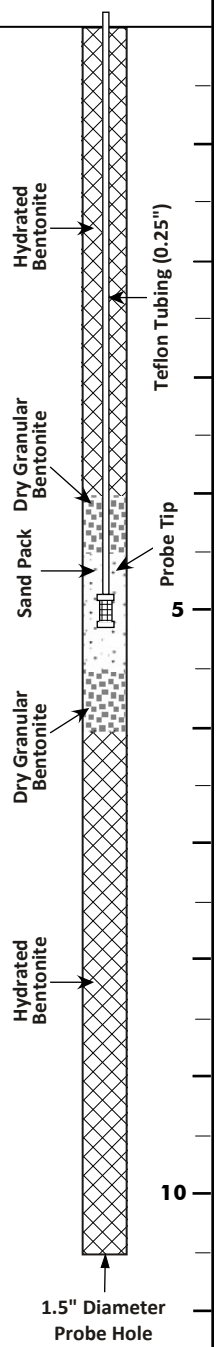
FOUNTAIN VALLEY REGIONAL HOSPITAL
17100 Euclid Street
Fountain Valley, California

LITHOLOGIC LOG

P1

Project: **01085**
Date: **April 2020**
Sheet 1 of 1

Depth (feet)	Interval	Sample I.D.	OVA (ppm)	Geologic Description Color, grain size, moisture, density, odor, etc.	USCS Symbol
0					
				Asphalt (3-inches)	
				Sandy Gravel (Base); dry, dense, no odor or staining	GP
		P2-2.5'	--	**Silt with trace Clay;** olive green, slightly damp, no odor or staining	ML
5		P2-5'	--	**Sand;** light gray, fine to medium grained, slightly damp, loose, no odor or staining	SP
10		P2-10'	--	**Sand;** light gray, fine to medium grained, wet, loose, slight petroleum hydrocarbon odor	
				Boring terminated at 10' bgs Vapor probe set at 5' bgs (2/5/2020 @ 12:15) Soil gas sample P2-5' collected 2/7/2020 @ 13:52	



Date Drilled: 2/5/2020
Logged By: S. Green
Driller: H&P Mobile Geochemistry
Boring Type: Strataprobe

Boring Diameter: 1.5 inch
Casing Diameter: N.A.
Boring Depth: 10 feet
Water Depth: ± 8 feet

Probe Depth: 5 feet.
Sand Pack Interval: 4.5 - 5.5 feet
Dry Bentonite Interval: 4 - 4.5 feet/5.5 - 6 feet
Hydrated Bentonite Interval: 0 - 4 feet/6 - 10 feet

C. JAMES & ASSOCIATES, INC. Environmental Consultants

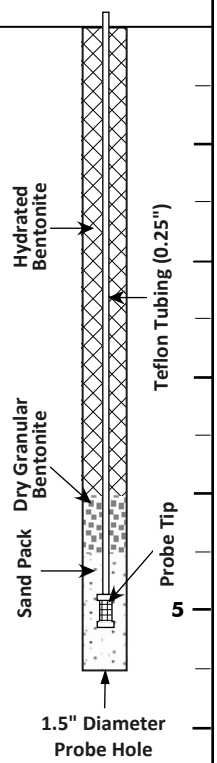
FOUNTAIN VALLEY REGIONAL HOSPITAL
17100 Euclid Street
Fountain Valley, California

LITHOLOGIC LOG

P2

Project: **01085**
Date: **April 2020**
Sheet 1 of 1

Depth (feet)	Interval	Sample I.D.	OVA (ppm)	Geologic Description Color, grain size, moisture, density, odor, etc.	USCS Symbol	Completion Details
0				**Asphalt (3-inches)**		
				Sandy Gravel (Base); dry, dense, no odor or staining	GP	
		P3-2.5'	--	**Clayey Silt;** olive green, slightly damp, no odor or staining	ML	
5		P3-5'	--	**Silt with trace sand;** olive green, fine to medium grained sand, slightly damp, no odor or staining		
				Boring terminated at 5' bgs Vapor probe set at 5' bgs (2/5/2020 @ 11:48) Soil gas sample P3-5' collected 2/7/2020 @ 13:10		
10						



Date Drilled: 2/5/2020
Logged By: S. Green
Driller: H&P Mobile Geochemistry
Boring Type: Strataprobe

Boring Diameter: 1.5 inch
Casing Diameter: N.A.
Boring Depth: 5 feet
Water Depth: N.A.

Probe Depth: 5 feet.
Sand Pack Interval: 4.5 - 5.5 feet
Dry Bentonite Interval: 4 - 4.5 feet
Hydrated Bentonite Interval: 0 - 4 feet

C. JAMES & ASSOCIATES, INC. Environmental Consultants

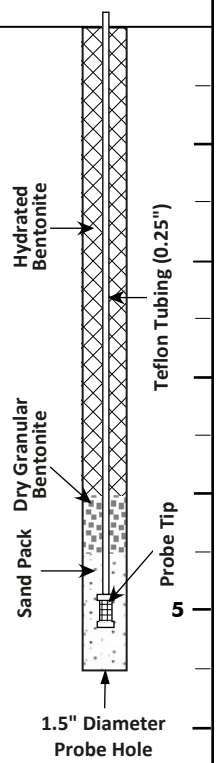
FOUNTAIN VALLEY REGIONAL HOSPITAL
17100 Euclid Street
Fountain Valley, California

LITHOLOGIC LOG

P3

Project: **01085**
Date: **April 2020**
Sheet 1 of 1

Depth (feet)	Interval	Sample I.D.	OVA (ppm)	Geologic Description Color, grain size, moisture, density, odor, etc.	USCS Symbol	Completion Details
0				**Asphalt (3-inches)**		
				Sandy Gravel (Base); dry, dense, no odor or staining	GP	
		P4-2.5'	--	**Silt with trace Clay and Sand;** olive green, very fine grained sand, slightly damp, no odor or staining	ML	
					SP	
5		P4-5'	--	**Sand;** light gray & tan, little to no fines, slightly damp, fine to medium grained, no odor or staining		
				Boring terminated at 5' bgs Vapor probe set at 5' bgs (2/5/2020 @ 11:05) Soil gas sample P5-5' collected 2/7/2020 @ 12:23		
10						



Date Drilled: 2/5/2020
Logged By: S. Green
Driller: H&P Mobile Geochemistry
Boring Type: Strataprobe

Boring Diameter: 1.5 inch
Casing Diameter: N.A.
Boring Depth: 5 feet
Water Depth: N.A.

Probe Depth: 5 feet.
Sand Pack Interval: 4.5 - 5.5 feet
Dry Bentonite Interval: 4 - 4.5 feet
Hydrated Bentonite Interval: 0 - 4 feet

C. JAMES & ASSOCIATES, INC. Environmental Consultants

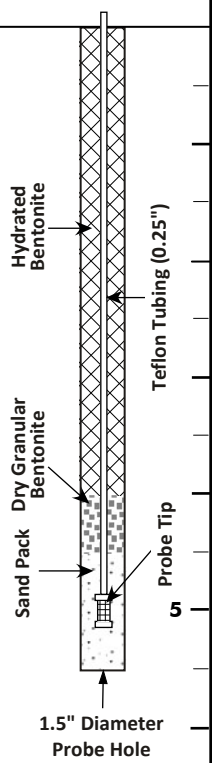
FOUNTAIN VALLEY REGIONAL HOSPITAL
17100 Euclid Street
Fountain Valley, California

LITHOLOGIC LOG

P4

Project: **01085**
Date: **April 2020**
Sheet 1 of 1

Depth (feet)	Interval	Sample I.D.	OVA (ppm)	Geologic Description Color, grain size, moisture, density, odor, etc.	USCS Symbol	Completion Details
0				**Asphalt (3-inches)**		
				Sandy Gravel (Base); dry, dense, no odor or staining	GP	
		P5-2.5'	--	**Silt with trace Clay and Sand;** olive green, very fine grained sand, slightly damp, soft, no odor or staining	ML	
					SP	
5		P5-5'	--	**Sand;** light gray & tan, fine to medium grained, slightly damp, no odor or staining		
				Boring terminated at 5' bgs Vapor probe set at 5' bgs (2/5/2020 @ 10:20) Soil gas sample P5-5' collected 2/7/2020 @ 11:35		
10						



Date Drilled: 2/5/2020
Logged By: S. Green
Driller: H&P Mobile Geochemistry
Boring Type: Strataprobe

Boring Diameter: 1.5 inch
Casing Diameter: N.A.
Boring Depth: 5 feet
Water Depth: N.A.

Probe Depth: 5 feet.
Sand Pack Interval: 4.5 - 5.5 feet
Dry Bentonite Interval: 4 - 4.5 feet
Hydrated Bentonite Interval: 0 - 4 feet

C. JAMES & ASSOCIATES, INC. Environmental Consultants

FOUNTAIN VALLEY REGIONAL HOSPITAL
17100 Euclid Street
Fountain Valley, California

LITHOLOGIC LOG

P5

Project: **01085**
Date: **April 2020**
Sheet 1 of 1

Depth (feet)	Interval	Sample I.D.	OVA (ppm)	Geologic Description Color, grain size, moisture, density, odor, etc.	USCS Symbol	Completion Details
0						
				Asphalt (3-inches)		
				Sandy Gravel (Base); dry, dense, no odor or staining	GP	Asphalt
		P6-2.5'	--	**Silt with some Clay and Sand;** olive green, slightly damp, very fine grained sand, no odor or staining	ML	
5		P6-5'	--	**Sand;** light gray, fine to medium grained, slightly damp, micaceous, loose, no odor or staining	SP	Hydrated Bentonite
10		P6-10'	--	**Sand;** light gray, fine to medium grained, slightly damp, micaceous, loose, no odor or staining		1.5" Diameter Probe Hole
				Boring terminated at 10' bgs		

Date Drilled: 2/5/2020
Logged By: S. Green
Driller: H&P Mobile Geochemistry
Boring Type: Strataprobe

Boring Diameter: 1.5 inch
Casing Diameter: N.A.
Boring Depth: 10 feet
Water Depth: ± 8 feet

Probe Depth: N.A.
Sand Pack Interval: N.A.
Dry Bentonite Interval: N.A.
Hydrated Bentonite Interval: 0.5 - 10 feet

C. JAMES & ASSOCIATES, INC. Environmental Consultants

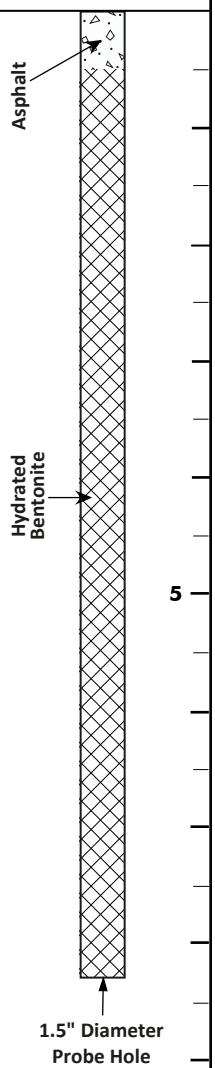
FOUNTAIN VALLEY REGIONAL HOSPITAL
17100 Euclid Street
Fountain Valley, California

LITHOLOGIC LOG

P6

Project: **01085**
Date: **April 2020**
Sheet 1 of 1

Depth (feet)	Interval	Sample I.D.	OVA (ppm)	Geologic Description Color, grain size, moisture, density, odor, etc.	USCS Symbol
0					
				Asphalt (3-inches)	
				Sandy Gravel (Base); dry, dense, no odor or staining	GP
		P7-2.5'	--	**Silt with Very Fine Sand;** yellowish olive green, very, slightly damp, soft, no odor or staining	ML
5		P7-5'	--	**Silty Fine Sand;** yellowish olive green, very fine to fine grained, slightly damp, soft, no odor or staining	SM
		P7-8'	--	**Cemented Sand;** light gray, medium to coarse grained, very dense dry, no odor or staining	SP
				Drilling refusal at 8' bgs	
10					



Date Drilled: 2/5/2020
Logged By: S. Green
Driller: H&P Mobile Geochemistry
Boring Type: Strataprobe

Boring Diameter: 1.5 inch
Casing Diameter: N.A.
Boring Depth: 8 feet
Water Depth: N.A.

Probe Depth: N.A.
Sand Pack Interval: N.A.
Dry Bentonite Interval: N.A.
Hydrated Bentonite Interval: 0.5 - 10 feet

C. JAMES & ASSOCIATES, INC. Environmental Consultants

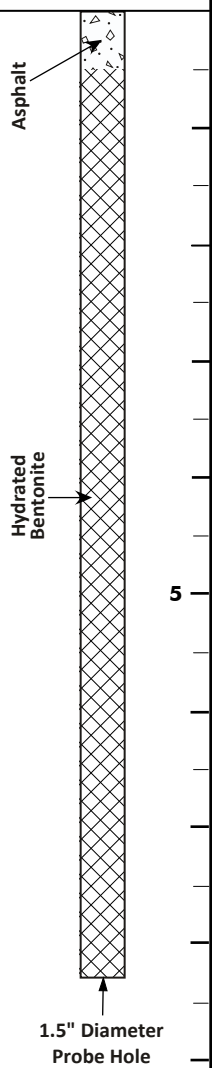
FOUNTAIN VALLEY REGIONAL HOSPITAL
17100 Euclid Street
Fountain Valley, California

LITHOLOGIC LOG

P7

Project: **01085**
Date: **April 2020**
Sheet 1 of 1

Depth (feet)	Interval	Sample I.D.	OVA (ppm)	Geologic Description Color, grain size, moisture, density, odor, etc.	USCS Symbol
0					
				Asphalt (3-inches)	
				Sandy Gravel (Base); dry, dense, no odor or staining	GP
		P8-2.5'	--	**Silt with Very Fine Sand;** yellowish olive green, very, slightly damp, soft, no odor or staining	ML
5		P8-5'	--	**Silty Fine Sand;** yellowish olive green, very fine to fine grained, slightly damp, soft, no odor or staining	SM
		P8-8'	--	**Cemented Sand;** light gray, medium to coarse grained, very dense dry, no odor or staining	SP
				Drilling refusal at 8' bgs	
10					



Date Drilled: 2/5/2020
Logged By: S. Green
Driller: H&P Mobile Geochemistry
Boring Type: Strataprobe

Boring Diameter: 1.5 inch
Casing Diameter: N.A.
Boring Depth: 8 feet
Water Depth: N.A.

Probe Depth: N.A.
Sand Pack Interval: N.A.
Dry Bentonite Interval: N.A.
Hydrated Bentonite Interval: 0.5 - 10 feet

C. JAMES & ASSOCIATES, INC. Environmental Consultants

FOUNTAIN VALLEY REGIONAL HOSPITAL
17100 Euclid Street
Fountain Valley, California

LITHOLOGIC LOG

P8

Project: **01085**
Date: **April 2020**
Sheet 1 of 1

APPENDIX B

Soil Vapor Sampling Field Log
H&P SOP

H&P Mobile Geochemistry Inc.

FMS005
Revision: 3
Revised: 1/15/16
Effective: 1/25/16
Page 1 of 1

Log Sheet: Soil Vapor Sampling with Summa

H&P Project #: CJ0207 20-TECH
Site Address: 17100 Ellerd St, Fountain Valley
Consultant: C. Jones
Consultant Rep(s): Mike
Date: 2/7/2020
Page: 1 of 1
H&P Rep(s): K. Schindler
Reviewed: EC
Scanned: T Torres

Equipment Info
Inline Gauge ID#: —
Pump ID#: 035

Purge Volume Information
PV Amount: 3pv
PV Includes: ☒ Tubing ☒ Sand 40% ☒ Dry Bent 50%

Leak Check Compound
A cloth saturated with LCC is placed around tubing connections and probe seal. This is done for all samples unless otherwise noted.
☑ 1,1-DFA
☐ 1,1,1,2-TFA
☐ IPA
☐ Other:

	Sample and Summa Information							Probe Specs							Purge & Collection Information						
	Point ID	Summa ID #	Sample Kit ID #	Start Time	Initial Vac (" Hg)	End / Sample Time	End Vac (" Hg)	Probe Depth (ft)	Tubing Length (ft)	Tubing OD (in.)	Sand Ht (in.)	Sand Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Shut In Test 60 sec (✓)	Leak Check (✓)	Purge Vol (mL)	Purge Flow Rate (mL/min)	Pump Time (min:sec)	Sample Flow Rate (mL/min)	ProbeVac ☐ Hg ☒ H_2O
1	P5-5	420	002	1126	-30	1135	0	5	6	1/4	12	1.5	6	1.5	✓	✓	765	200	3:49	200	-10
2	P4-5	194	068	1216	-30+	1223	0	5	6	1/4	12	1.5	6	1.5	✓	✓	765	200	3:49	200	-5
3	P4-5 Dup	361	068	1227	-30+	1229	0	5	6	1/4	12	1.5	6	1.5	✓	✓	1765	200	—	200	-5
4	P3-5	196	119	1304	-25.5	1310	0	5	6	1/4	12	1.5	6	1.5	✓	✓	765	200	3:49	200	-5
5	P2-5	079	019	1344	-27.0	1352	0	5	6	1/4	12	1.5	6	1.5	✓	✓	765	200	3:49	200	0
6	P1-5	170	224	1409	-27.0	1415	0	5	6	1/4	12	1.5	12	1.5	✓	✓	1025	200	5:08	200	0
7																					
8																					
9																					
10																					
11																					
12																					

1405 G0151187

Site Notes such as weather, visitors, scope deviations, health & safety issues, etc. (When making sample specific notes, reference the line number above):

H&P Mobile Geochemistry, Inc. 2470 Impala Drive, Carlsbad, CA 92010
LA Field Office: Signal Hill, CA 90755
Ph: 800-834-9888 www.handpmg.com

Quotation

Quote Submitted by: Kristin Beckley for H&P, Inc.	**Date:** 12/2/2019
Project Location: 17100 Euclid St, Fountain Valley, CA	**Company:** C James & Associates
Project Name or #:	**Contact:** Michael Anselmo
Tentative Schedule: not scheduled	

SUMMARY OF SCOPE

Scope of DPT Work: *H&P to provide a driller and a helper with the Strataprobe DPT Rig for soil and soil vapor sampling from a total of 8 locations as described below. All locations will first be hand augered to 5' bgs or refusal for utility clearance. Soil samples in the first 5' will be collected using slide hammer (or similar) to collect an intact sleeve at 2.5' bgs.*

Soil and Soil Vapor (P1 & P2); 2 locations to 10' bgs or refusal: *At each location, soils will be collected at 2.5', 5' & 10' bgs. Soil vapor probes will be installed at 5' bgs. (2 probes)*

Soil and Soil Vapor (P3, P4, P5); 3 locations to 5' bgs or refusal: *At each location, soils will be collected at 2.5' and 5' bgs. Soil vapor probes will be installed at 5' bgs. (3 probes)*

Soil Only (P6, P8); 3 locations to 10' bgs or refusal: *At each location, soils will be collected at 2.5', 5' & 10' bgs.*

Soil Only (P7); 1 location to 5' bgs or refusal: *At this location, soils will be collected at 2.5' and 5' bgs.*

It is understood that the locations are truck accessible and in asphalt or concrete surface cover. All locations are assumed to require coring in advance of hand augering. The cost for H&P to subcontract coring has been included as an estimate only. Actual costs for coring will be included in the final invoice with a 15% markup. The soil vapor probes will be constructed in general accordance with DTSC Guidelines. The probes will consist of a temporary airstone filter, ***1/4" Teflon tubing*** *, and a valve at the termination. The probe tip will be set within a 12" sand pack, with a minimum of 6" dry bentonite above the sand. The annular seal between probe depths and/or to the surface will consist of granular bentonite hydrated in lifts. Alternate annular seal construction methods are available upon request with additional time and cost.*

NOTE: Costs assume probe may be left in place with surface tubing and a temporary cold asphalt patch until they can be sampled 48hrs later. Well boxes have not been budgeted. Upon completion of sampling, the probe will be abandoned, location backfilled, and surface patched accordingly.

Vapor Sampling with Summas: *Following a* ***48 hr equilibration period*** *, the soil vapor samples will be collected in summa canisters in general accordance with DTSC Guidelines. At each location, a shut in test will be performed for 60 seconds and a cloth saturated with 1,1-DFA will be used as a liquid leak check. Probe vacuum will be monitored during purging to remain at <100" water, and a flow rate of 100-200mL/min will be maintained and recorded during purging and sampling. H&P will purge each location using 3 purge volumes (tubing + 40% sand + 50% dry bentonite porosities) unless otherwise instructed.*

Number of Analyses = 6 Total: *The scope of work includes 5 primary samples and one field replicate sample. Additional QC samples may be added at the direction of the consultant.*

Stationary Lab & Data Deliverables: *The vapor samples will be analyzed for the VOCs & TPHg as listed on page three in the stationary lab by certified H&P Method 8260SV. Preliminary results will be available within 7 business days. A final Excel EDD and PDF will be sent approximately 10 days after sample receipt at the lab. Alternate electronic formats (e.g. Geotracker) are available upon request.*

Vapor Sampling for EPA TO-17 Naphthalene & TPH-Diesel: *Following the collection of the samples into Summas, the H&P technician will also collect samples into sorbent tubes from each location. Sampling techniques as described above will apply (no leak check compound will be used for TO-17 analysis). Sample volume = 100cc.*

Number of TO-17 Samples = 6 Total: *The scope of work includes 5 primary samples and one field replicate sample. Additional QC samples may be added at the direction of the consultant.*

Stationary Lab & Data Deliverables: *Samples will be analyzed for* ***naphthalene & TPHd*** *by EPA Method TO-17 using the standard Eurofins turn around time and deliverables.*

Costs on Page 2

H&P Mobile Geochemistry Inc.

H&P Soil Vapor Installation and Sampling Standard Operating Procedures

SOPS 003

Revision 6

Revised: June 20, 2019

Effective: June 20, 2019

Approved:

6/20/2019

Dave Balkenbush **Date**

Field Operations Manager

Table of Contents

TABLES

FIGURES

APPENDICES

FOREWORD

These soil vapor sampling procedures are the standard policies and practices for H&P Mobile Geochemistry, Inc. These procedures are followed only in accordance and by acceptance from the client under contract for work being performed. Each client specific project is handled on a case by case basis, and H&P can modify and/or amend these procedures to accommodate different agency or work plan requirements. As additional information, experience and new agency procedural developments are learned, these procedures may be modified as deemed appropriate.

1.0 Soil Vapor Probe Installation Methods

1.1 Soil Vapor Probe Installation

1.1.1 Soil Vapor Probe Materials

1.1.1.1 Tubing

H&P most commonly uses 1/8" Nylaflow® tubing for all soil vapor probe applications. As requested, ¼" Nylaflow® or Teflon® tubing can be used for probe construction as well. For subslab installations, stainless steel tubing can also be used per client request. Only clean, new tubing is used for all soil gas probes. Prior to construction of the soil vapor probes, all tubing is flushed with lab grade Nitrogen to ensure that any unknown contaminates have not compromised the tubing during mobilization to the jobsite.

As per request, an equipment blank of the assembled soil vapor probe, including tubing and filter, may be done prior to commencement of work to confirm its cleanliness.

1.1.1.2 Filters

There are several different types of soil vapor filters which can be attached to the leading end of the soil vapor probe tubing. For temporary soil vapor probe installations, a plastic "airstone" filter is typically used as effective, cost efficient option. For more permanent soil vapor probe installations, it is recommended that a stainless steel mesh filter be used. These filters come in a variation of sizes. A small, 1" long implant screen is most commonly used by H&P unless otherwise requested by client. Other options include 6" or 12" stainless steel mesh filters.

1.1.1.3 Soil Vapor Probe Termination/Valve

The above ground soil vapor probe tubing is terminated at the end with a small plastic on/off stopcock valve. The open end of the valve has a female luer fitting that allows for easy attachment of the sample train when sampling is to commence.

Other terminations such as Swagelok® compression fittings, different size/type valves, or vinyl slip caps may also be attached to the tubing per request of the client.

1.1.1.4 Sand

All soil vapor probe filters are encased in #3 medium aquarium 8 x 20, ARB Certified, washed/cleaned/kiln dried sand unless otherwise requested.

1.1.1.5 Bentonite

Temporary soil vapor probes are typically constructed by sealing void spaces using a granular bentonite product composed of polymer-free, dried bentonite in 8-20 mesh size which is derived from natural Wyoming sodium bentonite.

Per request, temporary soil vapor probes can be constructed using a powdered, sodium-based bentonite grout which is mixed at the surface and poured down the borehole with the aid of a PVC treme pipe.

1.1.1.6 Portland Cement

Per request, permanent soil vapor probes can be constructed using a non-alkali, neat Portland cement. The cement is typically mixed at the surface and a bentonite content of 5 percent is added.

1.1.2 Installing Temporary Soil Vapor Probes using Direct Push Rig

At each vapor probe location, H&P's truck-mounted hydraulic direct push rig may be used to advance interconnected 4 ft. lengths of 1.5" stainless steel probe rod to the desired probe depth. The rod is then removed and the soil vapor probe tubing, with a small filter attached to the end, is inserted into the open borehole. The probe tubing is gently lifted up to a height which places the filter in the approximate center of the sandpack, and 6" to 1' of sand is poured down the borehole. Above the sandpack, 6" to 1' of dry granular bentonite is added to prevent moisture from infiltrating the sandpack. The borehole is then completed to the surface with hydrated bentonite. For deep probe installation with multiple soil vapor probe depths the borehole is initially advanced to the deepest location and the deepest vapor probe is installed first. The borehole is then constructed to the surface by carefully measuring and installing the remaining vapor probes at the desired depths. All depth requirements can be confirmed by advancing a tape measure down the borehole during stages of well construction. A 6" dry bentonite zone is placed below, and above the desired sandpack zone for all nested probes not at the deepest depth. In unstable soil conditions, a larger casing probe rod can be advanced down to depth and the well can be constructed inside of the rod. The probe tubing, filter and materials can be inserted into the probe rod and the soil vapor well can be constructed as it is retracted. After completion, an airtight valve is attached to the end of the probe. See Figure 1

Each soil vapor probe is labeled with an identification tag that indicates: sample ID (with probe depth), time probe was installed, diameter and height of the sand pack, diameter and height of the dry bentonite, and total length of tubing used.

1.1.3 Installing Soil Vapor Probes Using Manually Driven Hand Probes

In stable soil conditions, H&Ps manually driven probe rods may also be used to set soil vapor implants. With a hardened 7/8" steel tip on the end of the 3/4" probe rod, the probe is driven with an electric rotary hammer to depth (usually 5' or less). The rod is then removed and the soil vapor probe tubing, with a small filter attached to the end, is inserted into the open borehole. The probe tubing is gently lifted up to a height that places the filter in the approximate center of the sandpack, and 6" to 1' of sand is poured down the borehole. Above the sandpack, approximately 6" to 1' of dry granular bentonite is poured down the borehole and then the well is completed to the surface with hydrated bentonite. An airtight valve is attached to the end of the probe.

Each soil vapor probe is labeled with an identification tag that indicates: sample ID (with probe depth), time probe was installed, diameter and height of the sand pack, diameter and height of the dry bentonite, and total length of tubing used.

1.1.4 Installing Soil Vapor Probes Using Hand Auger Equipment

The use of hand auger equipment may also be used to install soil vapor probes. Most commonly, a 3.5" auger bucket is used to remove the soil from the borehole. Once the desired depth is reached, 1/8" (or ¼" if requested) Nylaflow® or Teflon® tubing with a small airstone filter attached to the end is inserted into the open borehole. The probe is gently lifted up approximately 6" and sand is poured down the borehole to encase the filter with 1' of sandpack. Approximately 1' of dry granular bentonite is poured down the borehole and then the well can be completed to the surface with hydrated bentonite.

1.1.5 Installing Semi-permanent or Permanent Soil Vapor Probes

For semi-permanent and/or permanent installations where monitoring of the soil vapor probe is required, a traffic rated well box can be installed at the surface. These are most commonly constructed of a 5" well box set in a 8" to 12" diameter concrete seal using high strength concrete. The probe tubing can be left coiled in the well box itself, or can be emplaced in PVC within the well box and finished with a locking cap protection of the probes.

If protection of the soil vapor probe tubing is desired, but the use of a well box is not necessary, another option is to insert a length of PVC at the surface of the borehole. The tubing can be protected inside the PVC and the top is covered with a PVC cap.

Examples of surface completion options can be seen in Figure 2.

Upon request, permanent soil vapor probes can be constructed with a Portland cement slurry to fill the annulous space. The slurry is a mix of 95% Portland cement and 5% bentonite material that is mixed at the surface and fed down the borehole via the use of a tremie pipe.

1.2 Post Run Tubing (PRT)/ Manual Through the Rod Sampling

1.2.1 PRT Soil Vapor Sampling Using Direct Push Rig

Soil vapor samples are obtained by using a 1.5" O.D. PRT (post run tubing) point holder and a hardened stainless steel drop-off point. The point holder is threaded onto the leading end of a 1.5" O.D. probe rod and advanced to depth using H&P's direct push rig. Once the desired depth is reached, a 3/8" PRT fitting connected to 1/8" (or 1/4" if requested) Nylaflow® or Teflon® tubing is then inserted into the rod and lowered to the bottom fitting. The tubing is then threaded onto the drop-off point holder by applying downward pressure on the tubing while rotating. A small rubber o-ring on the PRT fitting ensures an airtight seal. The probe rod is then retracted slightly to disengage the expendable point, exposing the vapor sampling port. Hydrated bentonite is placed around the drive rod at the ground surface to prevent ambient air intrusion from occurring.

1.2.2 Manual Probe Rod / Drive Point Method Soil Vapor Sampling

H&P's manually driven soil vapor probes are constructed of 0.625" outside diameter steel and equipped with a hardened steel tip. The probes can reach a depth of 5' below ground surface. To construct the probe rod, 1/8" Nylaflow® tubing is threaded down the center of the probe and connected to a sampling port just above the tip prior to the sample rod being driven into the subsurface. This internal sample tubing design eliminates any contact between the sample port and the vapor sample.

The probe is then driven into the ground by an electric rotary hammer. Once inserted to the desired depth, the probe is rotated approximately 3 turns to open the tip and expose the vapor sampling port. This design helps to prevent clogging of the sampling port and cross-contamination from soils during insertion. Hydrated bentonite is placed around the drive rod at the ground surface to prevent ambient air intrusion from occurring.

1.3 Subslab Probe Installation

1.3.1 H&P Standard Subslab Installation

Using an electric rotary hammer with a 1" masonry drill bit, a hole is drilled through the concrete, penetrating the slab and advancing 2-3 inches into the engineered fill below the slab. All drill cuttings are removed from the borehole. Subslab probes are constructed of 1/8" or 1/4" tubing with either an airstone or stainless steel mesh filter attached. Tubing material can be Nylaflow®, Teflon® or Stainless steel. The probe is inserted into the borehole and the filter is emplaced in a 3" sandpack. A small layer of dry granular bentonite is placed above the sandpack and the borehole is completed to the surface with hydrated bentonite. For temporary subslab locations, the tubing length

extends above the slab approximately 1 – 1.5' and an airtight valve is attached to the probe.

Each soil vapor probe is labeled with an identification tag that indicates: sample ID (with probe depth), time probe was installed, total length of tubing used, and purge volume.

For permanent subslab installations, the tubing is completed with a Swagelok® compression fitting that is set flush in the slab using a cement grout. These installations allow for monitoring of the subslab locations for any period of time. A diagram of this installation can be seen in Figure 3. (For detailed installation instructions, refer to FSG 005.)

1.3.2 Cox Colvin Vapor Pin™ Installation

Per request, H&P can install the Cox Colvin Vapor Pin™ for the use of subslab sampling. Installation of the Vapor Pin is done following the recommended Standard Operating Procedures for installing the permanent Vapor Pin with Drilling Guide and Secure Cover. (For detailed installation instructions, refer to Cox Colvin Standard Operating Procedure- Use of the Vapor Pin™ Drill guide and Secure Cover).

1.4 Drilling Refusals

Drilling refusals can, and often do, happen with any type of soil vapor drilling method mentioned above. If refusal occurs, the H&P operator will inform the client that the target depth was not achieved. The client may then decide to install the soil vapor probe at the depth reached, or attempt to step over to a new location and try again to advance to the target depth. All step out locations must have proper utility clearance in order for the operator to proceed. If refusal still occurs after three attempts, the client should then decide if they wish to install the soil vapor probe at the shallower depth, or abandon that location. If deeper depths mush be achieved, an alternative drilling method may be required. Any requests from the client to continue attempting step out locations beyond three attempts should be discussed with the H&P project manager or supervisor.

1.5 Decommissioning Soil Vapor Probes

1.5.1 Standard Temporary Soil Vapor Probes

After final sample collection and analysis of the soil vapor well has been completed, the probe tubing is removed from the well by pulling it out from the surface. Complete removal of the tubing may not be possible on deeper wells, in which case the tubing is cut as far below grade as possible. Because of the small diameter size of the tubing and the construction of the well with hydrated bentonite, it is assumed that any open

pore space left from the tubing is minimal and is sealed with the expansion of the hydrated bentonite. If there is any indication that the removal of the tubing has created an open pore space, thus creating a potential conduit, additional bentonite or a bentonite slurry may be added to the borehole to properly seal the void space. The surface of the well is restored to its original condition of concrete, asphalt, soil, or vegetation unless requested otherwise.

1.5.2 Semi-permanent Soil Vapor Wells set in Well Boxes

After final sample collection and analysis of the semi-permanent soil vapor well has been completed, the cement well box containing the probe is broken up and removed from the ground surface. It can be broken up using the direct push rig, rotary hammer drill, or a breaker bar. The probe tubing is removed from the probe, as described above, and the annulus space created from the removal of the well box construction is filled with native material, concrete or asphalt to match the original surface condition.

1.5.3 Subslab Points

After final sample collection and analysis of the subslab point has been completed, the semi-permanent subslab point is destroyed by pulling out the tubing form the borehole. A screwdriver, or other implement, is then used to clear out the hydrated bentonite within the slab. Once removed, the hole in the slab is filled with high strength rapid set cement. For permanent installations, the Swagelok compression fitting is removed from the surface and the open pore space is filled in with high strength rapid set cement.

1.6 Decontamination

All probe construction materials, including tubing and filters, are clean and unused so they do not require decontamination. However, as an added precaution, prior to construction of the soil vapor probes, all tubing is flushed with lab grade Nitrogen to ensure that any unknown contaminates have not compromised the tubing during storage and/or mobilization to the jobsite. All reusable equipment, such as the probe rods and point holders, are cleaned of any observed soil cuttings and/or foreign material. Decontamination of the equipment using a three-stage process consisting of a wash with a non-phosphate detergent, a rinse with tap water, and a final rinse of de-ionized water can be done upon request.

2.0 Soil Vapor Sample Collection

2.1 Equilibration Time

Each individual soil vapor project may have a specific equilibration time required for each soil vapor probe installation method used, based on the project plan and/or agency oversight requirements. See Table 1 for a chart listing the different government agencies requirements for these equilibration times.

2.2 Soil Vapor Purge Volumes

Soil Vapor probe purge volumes are determined by adding the volume of the tubing used in the probe construction, the volume of the sandpack zone, and the volume of the dry bentonite zone.

2.2.1 Calculating Purge Volumes of Soil Vapor Wells

Purge volume of a soil vapor well is defined as the internal volume of the length of tubing used in the construction of the soil gas well added to the “dead space volume” of the sand pack around the probe tip/filter along with the “dead space volume” of the dry bentonite zone.

The inner diameter of the tubing is used to calculate the volume of the tubing. Once the ID is measured, the volume is calculated using the formula for volume of a cylinder:

$$V = \pi r^2 h$$

Whereas the radius equals ½ of the internal diameter of the tubing and the height is equal to the length of tubing. H&P most commonly uses 1/8” Nylaflow tubing with an internal diameter of 0.078” which calculates to approximately 1 cc/ft. Larger tubing sizes, such as ¼”, can be calculated using the same method.

In order to calculate the volume of the sand pack, the individual parameters of the sand pack must be known. These include the diameter of the borehole, the height of the sand pack, and the porosity of the sand. The width of the borehole equates to the outer diameter of the probe rod or auger used to install the vapor well. The height of the sand pack is the amount of sand poured down the borehole encasing the probe filter, typically 6” to 1’. The porosity, or pore space, is the amount of air space between the sand particles within the sand pack. This is typically around 30-40%. H&P

calculates the porosity at 40%. Therefore, in order to calculate the total volume of the sand pack, you use the same formula for volume as described above, and then multiply by the porosity:

$$V = \pi r^2 h(.40)$$

Whereas the radius equals ½ of the borehole diameter and the height is equal the length of the column of sand emplaced around the probe filter.

In order to calculate the volume of the dry bentonite zone, the same formula is used, but the porosity is changed to 50%.

$$V = \pi r^2 h(.50)$$

Once the volume of the tubing**,** sand pack and dry bentonite zone have been determined, these volumes are added together to equal one volume of the soil vapor probe. This volume can then be multiplied by 3 in order to get the standard 3 Purge Volumes of the soil vapor probe.

Note: *For projects being completed under the 2012 DTSC advisory for active soil gas investigations, the sand pack is assumed to have porosity of 40%, and the purge volume must also include the void space of the dry bentonite emplaced above the sandpack. The volume of which can be calculated using the same formula as used above for the sandpack. The assumed porosity of the dry bentonite is 50%. This volume is added to the volume of the sandpack plus the internal volume of the vapor probe tubing to give one purge volume of the soil vapor system.*

2.2.2 Calculating Purge Volumes of PRT Sample Method

The purge volume of the PRT sample system is defined as the internal volume of the length of tubing used, added to the internal diameter of the PRT drop off point holder fitting. This fitting has a calculated internal volume of 20cc which is added to the internal volume of the length of tubing being used. These volumes added together equal one volume of the PRT system.

2.2.3 Calculating Purge Volumes of Manual Probe Rod

The purge volume of the Manual Probe Rod sampling with the tubing attached through the rod is defined as the internal volume of the length of tubing used, added to the internal diameter of the slotted point holder at the end of the rod. This fitting has a calculated internal volume of 10cc, which is added to the internal volume of the length

of tubing being used. These volumes added together equal one volume of the manual probe rod system.

2.2.4 Calculating Purge Volumes for Subslab Probes and Vapor Pins

Purge volumes for Subslab probes are determined in the same manner as a soil vapor probe. One purge volume of the probe is calculated by adding the volume of the subslab tubing to the volume of the sandpack, to the volume of the dry bentonite. This volume is then multiplied by 3 in order to determine 3 purge volumes of the probe.

Purge volumes for Vapor Pins are determined by calculating the volume of ambient air space from the bottom of the Vapor Pin, to the bottom of the borehole. This volume is then added to the internal volume of the Vapor Pin (= 1mL) and then multiplied by 3 in order to determine 3 purge volumes of the probe.

2.3 Purge Volume for Semi-Permanent/Permanent Soil Vapor Probes

For permanent, or semi-permanent, soil vapor probes subject to frequent sampling events, the purge volume can be reduced to one purge volume of the system, or one purge volume of the tubing if the soil vapor well has been previously purged and sampled and sufficient time has transpired between sampling events. This is entirely site specific and these volumes are determined by clients of H&P based on their project work plans.

2.4 Shut-In Test

Prior to purging and sampling, a shut-in test is conducted on the sampling train to check for leaks in the above-ground fittings. The shut-in test is conducted by attaching the complete sample train assembly to the termination valve on the soil vapor probe. With the valve attached to the soil vapor probe in the “off” position, a purge syringe or vacuum pump is used to evacuate the sample train of air to a minimum measured vacuum of approximately 100 inches of water. The vacuum is observed on a in-line vacuum gauge which is positioned prior to the purge syringe or vacuum pump. The vacuum gauge is observed for one minute and all above ground connections will be considered “air-tight” if the pressure on the gauge does not noticeably dissipate. If there is a observable loss in vacuum, the fittings in the sample assembly are checked and tightened, and the test is repeated. Sampling is not commenced until the above ground fittings are deemed air-tight.

2.5 Leak Test

A leak test, using a liquid tracer or a gaseous tracer, is performed on each individual soil vapor sample probe in order to test the integrity of the entire sampling system. Its purpose is to evaluate whether an adequate seal is established at the soil vapor probe interface with the ground surface, as well as a leak check of all above ground fittings to ensure that the samples collected are not being diluted by ambient air.

2.5.1 Liquid Leak Check Compounds

Liquid leak check compounds, such as Difluoroethane (DFA), Tetrafluoroethane (PFA) and Hexane can be used to evaluate sample integrity. The liquid tracer compound is applied to a towel and kept in a closed plastic ziplock bag until it is ready to be used. Prior to purging and sampling of the soil vapor probe, the towel is emptied from the plastic bag and placed directly at the point of entry of the soil vapor probe into the borehole. This is used to test the integrity of the construction of the soil vapor probe. Additional saturated towels can also be set near all above ground sample train connections to ensure there are no leaks in the above ground fittings as well. The towel used for the leak detection can be reused between samples and should be refreshed with the liquid compound prior to each purging and sampling event. If the purging and sampling collection takes longer than five minutes in duration, the liquid tracer should be reapplied to the cloth, or steps should be made to contain the compound within an enclosure.

This method is most commonly used with an on-site mobile laboratory because any detections of the leak tracer compound in the sample can be quantified on site. This allows for the probe to be re-sampled after adequate steps to correct the leak have been attempted.

Liquid leak check compounds can also be used to identify potential leaks of the sample system when sampling with summa canisters for off-site analysis as well, but any detections of the leak compound in the sample will not be known until after the summa canisters have been analyzed.

2.5.1.1 Corrective Actions Taken for Leak Check Compound Detections

The DTSC 2015 ASGI recommends a liquid leak check (LCC) threshold of 10x the reporting limit of the LCC compound. When the LCC detection exceeds this threshold, H&P has consistent corrective action procedures to be communicated and performed as follows:

If the leak check 1,1 DFA is detected over the threshold of 10x the RL, a second sample attempt is made. Prior to the collection of this sample, extra precautions are made to assure that there are no leaks in the sample train. These include: checking the termination valve, checking the integrity of the probe tubing, and checking the

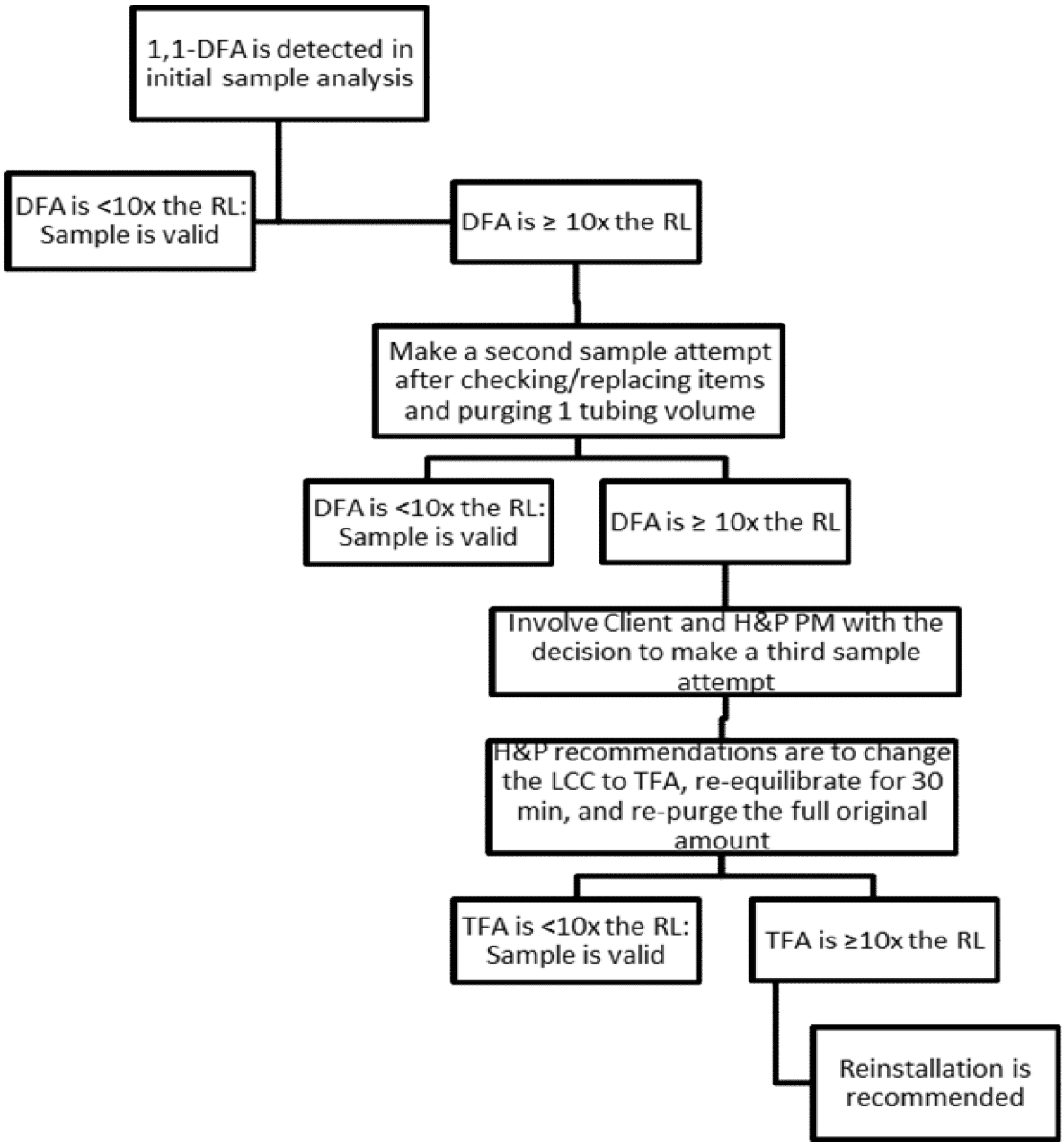
condition of the probe sealing material. A second shut-in test is also performed on the sample train.

If the leak check 1,1 DFA is detected over the threshold again, the decision about how to proceed will involve the client for the project. In this situation, H&P will make the following recommendations:

- Change the LCC to a new compound (i.e. 1,1,1,2-Tetrafluoroethane) and attempt one more resample of the existing probe.
    - The reason for the change is because a) DFA could be present at the location and/or b) the probe materials could be contaminated with DFA carryover due to the previous leakages.
- Equilibration: Resampling should occur after 30 minutes or more have passed since the last sample attempt.
    - Because the probe will be re-purged, it is recommended to let the soil vapor re-equilibrate for 30 minutes after the previous sampling events.
- Purging: The existing probe should be re-purged the full original amount (i.e. 3PV).
    - The reason for this recommendation is to flush the probe completely in an effort to test the entire system for leaks with the new compound.

If the leak check 1,1,1,2-TFA is detected over the threshold on the 3rd sample attempt, the probe is considered to be invalid. At this point it is the recommendation of H&P that the soil vapor probe cannot be adequately sampled and should be re-installed at an adjacent location.

2.5.1.2 Corrective Action Flow Chart for LCC Detection



2.5.2 Gaseous Leak Check Compounds

Gaseous tracer compounds, such as helium, can also be used to evaluate sample integrity. The tracer gas is contained in a shroud which is then placed over the soil

vapor probe location, or the entire sample train, evaluating any leaks in the sampling system. Procedures for conducting this leak test are described in Appendix B. (For detailed instructions refer to FSG 009)

2.6 Purging Soil Vapor Probes

Depending on the volume of purge air that is required to be removed from the soil vapor probe, there are two options that can be used for purging. For smaller purge volumes, a plastic, gas-tight, calibrated syringe is used to purge the probe. For larger purge volumes, a vacuum pump is used. The purging device is attached to a 3-way valve (or a tee fitting) which is then connected to the on/off valve on the soil vapor probe. This 3-valve allows the sample train to be connected to one port on the valve, and the purge equipment to be attached to the other. This ensures that all of the sample train assembly being used for the collection of the sample will be upstream of the purging device, and therefore eliminates any potential for cross contamination.

2.6.1 Using a Syringe to Purge

H&P uses small plastic, calibrated syringes which allow for careful monitoring of purge volumes and flow rates when dealing with smaller volume soil vapor probes. Attached to the syringe is an air tight 3-way valve which allows the purge air to be drawn into the syringe and then evacuated out the side port on the valve. The syringe is attached to an in-line vacuum gauge so that probe vacuum can be monitored as the plunger draws in the purge vapor. The sampling technician can also feel the suction applied to the plunger while it is being withdrawn. During purging, the flow rate is timed so that it does not exceed 200 mL/per minute. This is accomplished by withdrawing the plunger on the 60 mL syringe at a constant rate for 20 seconds. This procedure ensures adequate purge vapor flow is obtained without excessive pumping of air or introduction of surface air into the sample. *Note: Plastic syringes are used only for purging the soil vapor probe and are not used in the collection of the soil vapor sample. See Sample Containers/ Glass Syringes*

2.6.2 Using a Vacuum Pump to Purge

For soil vapor wells with larger purge volumes, a vacuum pump is used to evacuate the purge air. Depending on the volume of purge air required to be evacuated and the proper flow rate needed, different sized pumps may be used. H&P most commonly uses a portable battery operated pump box which has the capability to adjust flow rates from 50 mL/min up to 4 L/min. For faster flow rates, a single-head diaphragm vacuum pump is used which has the capability to adjust flow rates from 1 L/min – 30 L/min. The high volume vacuum pumps require a power source to be used. All pumps used have flow meters attached so the flow rates can be accurately recorded along with in-line vacuum gauges so that probe vacuum can be monitored while purging.

2.7 Purge/Sample Flow Rate and Applied Vacuum

2.7.1 Sampling a Stardard Construction Soil Vapor Well

Flow rates between 100 to 200 mL/min and probe vacuum pressures of less than 100 inches of water are maintained during purging and sampling of the soil vapor probe to minimize stripping, and to prevent ambient air from diluting the soil vapor samples.

When using a syringe for purging and sample collection, flow rates can be monitored by timing the interval at which the plunger is drawn. A 60 mL syringe will take approximately 20 seconds to fill in order to maintain a 200 mL/min flow rate. When using a vacuum pump, in-line calibrated flow meters are used to accurately monitor flow rates. These flow meters have metering valves which allow the flow rates to be increased or decreased to the appropriate rate.

An in-line vacuum gauge is used when purging with a syringe or a pump in order to maintain probe vacuum pressures less than 100” water. If, while purging, vacuum pressure exceeds 100” water, the client will be informed that the soil vapor probe location appears to be in a low-permeable soil formation. The sample technician will then slow the purge flow rate to a rate of 100 mL/min in attempt to maintain flow and keep the applied vacuum below 100” water. If it is not possible to maintain this flow rate without applying excess vacuum, alternative sampling methods can then be attempted to collect a sample in these prohibitive, low flow conditions.

2.7.2 Alternative Sampling Method in Low Flow Soil Conditions

After discussion and approval from the client, a modified purging and sampling procedure may be attempted when low flow soil conditions are encountered. After the vacuum threshold of 100” water is applied to the soil vapor probe and a flow rate of 100 mL/min is determined to be unattainable, the probe valve is closed to allow the vacuum to dissipate and all the soil vapor to slowly enter the sand pack and tubing from the surrounding soils. Using the vacuum gauge to monitor that the probe vacuum has completely dissipated, the probe valve is reopened and more vapor is purged until the vacuum threshold is met again. This procedure is repeated until the soil vapor

probe is adequately purged and sampled. Because it may be unreasonable to purge and collect larger volumes due to time constraints, this method may not be appropriate when collecting samples in larger containers such as Summa canisters and/or Tedlar bags.

If this procedure is not feasible due to time/cost implications, H&P can provide an alternative option to reduce the purge volume to a total of 1 system volume (rather than 3 system volumes). This option is NOT outlined by DTSC, but can be implemented with the understanding that a vacuum condition may be interpreted as an indication that the ambient air within the probe construction materials has been evacuated, and that the air now being removed from the soil vapor probe is representative of the surrounding soil.

If there is no observed loss in probe vacuum once it has been applied and the valve has been closed, the client is informed that the soil vapor well is in a "no flow" situation and collection of soil vapor is not possible at that location. The client can then determine if they want to eliminate that location or to re-install another probe.

2.7.3 Sampling Soil Vapor Wells with Large Purge Volumes

Soil Vapor Wells constructed in large diameter boreholes, and/or wells constructed with PVC, will often have very large purge volumes. As a result, purging at the standard flow rate of 200 mL/min may be impractical due to time constraints. In such cases, it is recommended that the flow rates be increased to a rate which makes the sample times reasonable in order to complete the scope of work within the time frame desired. Some common increased flow rates used are 500 mL/min, 1 L/min, 5 L/min and 10 L/min. It is important to note that the probe vacuum applied is carefully monitored using a vacuum gauge in order to ensure that the vacuum pressure remains below 100" water during the entire purging process.

If connecting to a PVC well, a slip cap with a barb and a valve attachment may be connected to the PVC to provide sample access. The high flow vacuum pump is then attached to a 3-way valve (or a tee fitting) which is then connected to the on/off valve attached to the PVC cap. This 3-valve allows the sample train to be connected to one port on the valve, and the purge equipment to be attached to the other. This ensures that all of the sample train assembly being used for the collection of the sample will be upstream of the purging device, and therefore eliminates any potential for cross contamination.

Once the sample train is connected to the Soil Vapor Well, and just prior to purging, a shut in test is conducted in the same manner as described for a standard Soil Vapor Well. The use of a Leak Check Compound is also used in a similar manner as described for sampling a standard Soil Vapor Well.

2.8 Equipment Blanks for Soil Vapor Sampling

Upon request, H&P will collect a blank sample through the soil vapor equipment for QA/QC purposes. Standard procedure is to pull a sample of ambient air through the entire equipment train and into the applicable sampling container. The soil vapor train typically includes a pre-constructed soil vapor probe before installation (filter, tubing, termination), as well as the surface fittings and sampling train. If the soil vapor probes are already installed and not subject to the equipment blank, the equipment can include just the fittings and the sampling train. As part of the QA/QC process, H&P recommends also collecting a grab sample of the ambient air used as the source of the equipment blank, in order to identify the source of any contamination (i.e. ambient conditions or the actual equipment). Alternative equipment blank procedures as proposed in client work plans may also be followed upon request.

2.9 Sample Containers

Soil Vapor samples are collected in the appropriate gas-tight container required for specific projects and analysis needed. All sample collection assemblies and containers should be attached to the soil vapor probe via a 3-way valve prior to the purging device in order to avoid cross contamination.

2.9.1 Glass Syringes

H&P uses an airtight calibrated glass syringe for sample collection to be analyzed by the mobile on-site laboratory. The glass syringe is attached via a luer lock connection to a 3-way valve, which allows sample to be drawn into the syringe and then sealed off by rotating the valve. The syringe is attached to the “T” fitting (or 3-way valve) connected to the soil vapor probe on/off valve, and prior to the purging device. After purging of the soil vapor probe has been completed, the valve is rotated so that the flow path of the soil vapor probe is diverted towards the sample syringe. The plunger is then slowly drawn back at a flow rate of 200 mL/min or less. When the plunger is pulled back and the soil vapor sample has been drawn into the syringe, the valve is shut off at the syringe. It is then disconnected and immediately wrapped in aluminum foil, or transferred to a cool, dark bag to prevent photo degradation of the target analytes from direct sunlight. The soil vapor holding time in the syringe should not exceed 15 minutes before it is transferred to the sample instrument. (See FSG 014)

2.9.2 Summa Canisters

H&P most commonly uses 400 mL summa canisters for collection of soil vapor samples. If higher detection limits are needed, the use of 1 L canister may be required. The use of 6 L summa canisters is not recommended for soil vapor sampling. The summa canisters are attached to a sample assembly (also called a flow regulator or

flow restrictor) via a quick-connect fitting. The sample assembly contains a vacuum gauge which is used to monitor the summa canister vacuum pressure, and a critical orifice which restricts the flow of air through the device at the desired rate. The leading end of the sample assembly contains a barb fitting which is attached to the "T" fitting (or 3-way valve) connected to the soil vapor probe on/off valve, and prior to the purging device. After purging of the soil vapor probe has been completed, the valve is rotated so that the flow path of the soil vapor probe is diverted towards the sample assembly and summa canister. The valve on the summa canister is then opened and sampling is commenced. Canister vacuum pressures are recorded prior to sampling, and again after sampling has been completed. It is H&P's procedure to allow the vacuum pressure to zero with the collection of the sample. This allows the canister to be under zero pressure and thus, along with the shut-off male quick connect fitting and the canister valve, assures that there is no potential for unwanted air to enter the canister should a leak occur during transit. If requested, slight vacuum (two to four inches of mercury) may be left in the canister at the commencement of sampling. (See FSG 001 and FSG 002)

Summa canisters should be kept out of direct sun light and kept at room temperature until received by the laboratory. The soil vapor holding time in a summa canister should not exceed 30 days.

2.9.3 Tedlar® Bags

The use of Tedlar bags (or polymer bags) can be an effective and economical approach for the collection of soil vapor samples. Soil vapor samples can be collected in Tedlar bags using one of two methods.

A syringe can be used by drawing the sample into the syringe, and then evacuating it through a side port in the 3-way valve into the Tedlar bag. This process is repeated until the proper amount of sample is collected in the bag. (See FSG 006 and FSG 007)

The use of a "lung box" may also be used to collect the soil vapor sample in the Tedlar bag. The lung box fills the bag with sample directly from the soil vapor probe using the pressure difference caused by creating a vacuum condition within the box through the use of a vacuum pump. The vacuum inside the container forces the Tedlar bag to expand and to draw in a sample directly from the soil vapor probe.

Samples collected in Tedlar bags should not be exposed to sunlight or extreme temperatures. Photo degradation of target analytes is possible with light exposure. The soil vapor holding time for Tedlar bags should not exceed 3 days.

2.9.4 Sorbent Tubes

The use of sorbent tubes can be used as a effective method for obtaining soil vapor samples, particularly when heavier compounds such as Naphthalene are of concern. The sorbent sample method, TO-17, can be used to collect VOC's over a wider volatility range than the more common canister-based TO-15 method.

The sorbent tube is attached upstream of a syringe or sample pump. The leading end of the sorbent tube is attached to the “T” fitting (or 3-way valve) connected to the soil vapor probe on/off valve, and prior to the purging device. After purging of the soil vapor probe has been completed, the valve is rotated so that the flow path of the soil vapor probe is diverted towards the sorbent tube set up, and the soil vapor sample is carefully drawn through the tube. The flow rates and volume of soil vapor sample drawn through the sorbent tube are critical to achieving the data quality objectives and must be discussed with the laboratory prior to sample collection. (See FSG 010 and FSG 011)

After sample collection, sorbent tubes should be wrapped in aluminum foil and kept in a cooler at a temperature of approximately 4° C (39° F) until received by the laboratory. The soil vapor hold time for sorbent tubes should not exceed 30 days. Complete sorbent tube sample procedures are available upon request.

3.0 Field Records

A copy of all log sheets and the chain of custody are located in Appendix C.

3.1 Soil Vapor Probe Installation Log Sheet

Following installation of each soil vapor probe, the H&P technician documents all the pertinent information for the construction of the soil vapor probe on a Soil Vapor Probe Installation Log Sheet. The soil vapor probe installation logsheets are kept in a project folder specifically made for each job performed.

Each logsheet contains the following information:

- Project site address
- Client
- Soil vapor point ID's
- Time and Date of each probe installation
- Probe depth
- Tubing: Length, Type, Diameter
- Filter Type
- Sand pack and Dry Bentonite dimensions (bore hole dimension)
- Probe Termination
- Date the Probes are Abandoned
- Additional Notes

3.2 Soil Vapor Sampling Log Sheets

All soil vapor samples collected by H&P personnel are documented on task specific Soil Vapor Sampling Log Sheets. Depending of the sample container and sample method used, appropriate log sheets with all pertinent information are documented for each sample collected. Each log sheet contains the following information:

- Project site address
- Client
- Soil Vapor Point ID's
- Sample Time

- Probe Specs: Probe Depth, Tubing Length and Diameter, Sand Pack and Dry Bentonite dimensions
- Purge Volume Information
- Pump Run Time (if used)
- Flow Rate
- Shut-in Test
- Probe Pressure
- Leak Check Compound used and Procedure used to apply
- Additional Field Notes

3.2.1 Soil Vapor Sampling with Mobile Lab (Syringe) Log Sheet

In addition to the information listed under Soil Vapor Sampling Log Sheet, the following information is also included on the Soil Vapor Sampling with Mobile Lab log sheets:

- Syringe ID

3.2.2 Soil Vapor Sampling into Summa Log Sheet

In addition to the information listed under Soil Vapor Sampling Log Sheet, the following information is also included on the Soil Vapor Sampling into Summa Log Sheets:

- Summa canister #
- Sample Assembly #
- Sample Collection Start and End Times
- Summa Canister Initial and Final Vacuum Pressures

3.2.3 Soil Vapor Sampling With Helium Shroud Log Sheet

In addition to the information listed under Soil Vapor Sampling Log Sheet and Sampling Into Summa Log Sheet, the following information is also included on the Soil Vapor Sampling With Helium Shroud Log Sheets:

- Helium Percentages in Shroud Before and After Sampling
- Helium Concentration Found in Probe
- Shroud Procedure Collection Summary

3.2.4 TO-17 Sorbent Tube Soil Vapor Sampling Log Sheet

In addition to the information listed under Soil Vapor Sampling Log Sheet, the following information is included on the TO-17 Sorbent Tube Soil Vapor Sampling Logsheets:

- Sorbent Tube ID
- Sample Start and End Times
- Total Sample Time
- Total Sample Volume

3.3 Chain of Custody Records

Each soil vapor sample collected that is to be analyzed must be documented on a Chain of Custody Record (COC). The COC is a record of receipt for all samples and designates which analysis will be performed on each sample. H&P personnel may help document information on the COC, but it is the clients responsibility that all sample ID's and analysis marked are correct. The client must sign the "Relinquished By:" signature line confirming that sample information is correct and the analysis to be performed is accurate. The client is given a copy of the COC upon signature of both parties. The COC is then used as a sample custody record upon receipt by the laboratory.

TABLE 1

Equilibration Times

Equilibration times are dictated by client work plans and local guidance and regulations. Below are common equilibration times per regulatory agencies in Southern California, for example.

Installation Method	San Diego County SAM Manual 2011	DTSC ASGI 2015
Vapor Well w/ Sand Pack and Dry Bentonite	8 hours	120 minutes
Drive Point Handprobe	30 minutes	Not specified
PRT Sampling	60 minutes	Not specified
Hand Auger or Auger Rig	48 hours	48 hours
Sub Slab probes (semi- permanent)	Not specified	120 minutes
Sub Slab probes (permanent)	Not specified	120 minutes

Figure 1

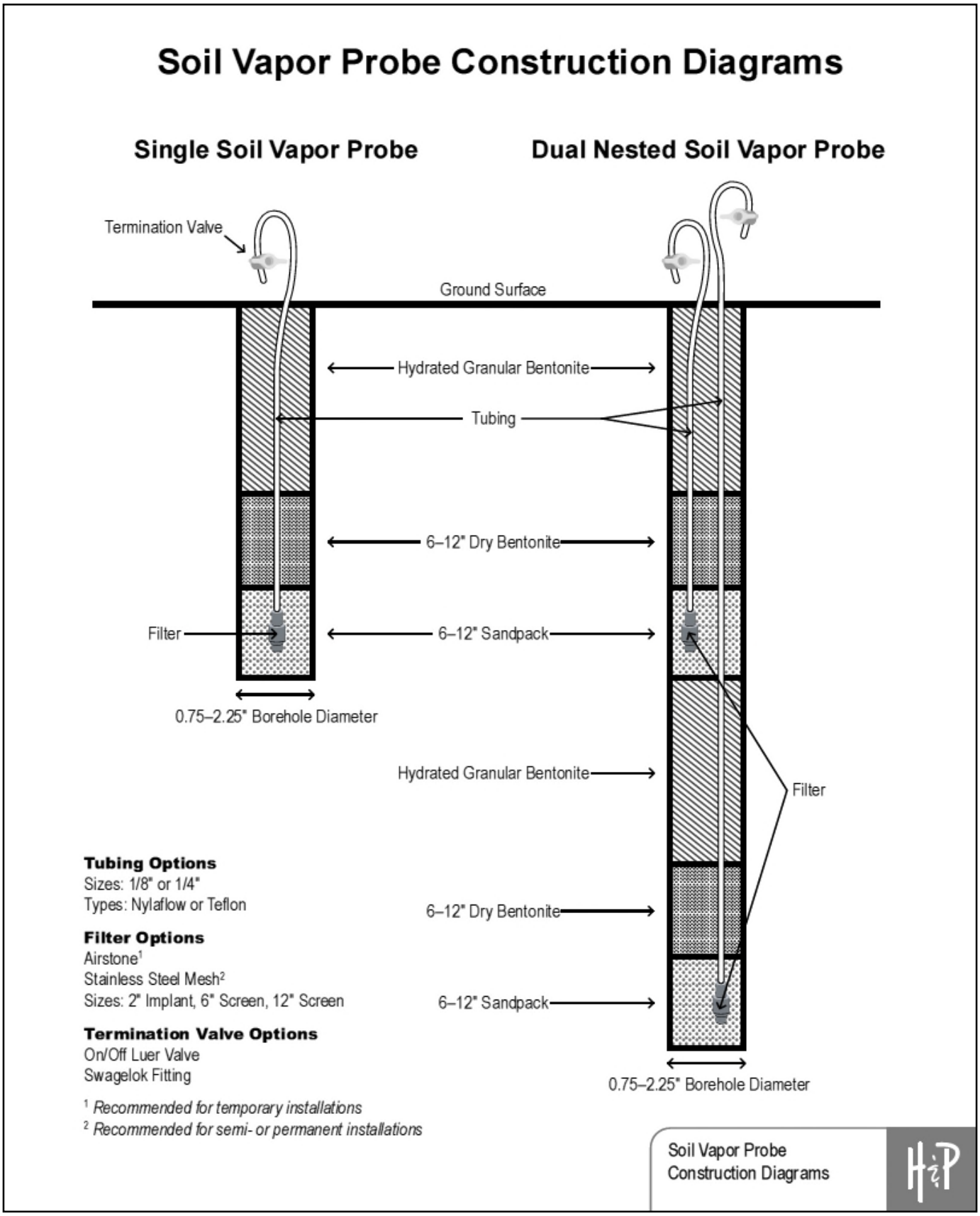

Soil Vapor Probe Construction Diagrams
Single Soil Vapor Probe
Dual Nested Soil Vapor Probe
Termination Valve
Ground Surface
Hydrated Granular Bentonite
Tubing
6–12" Dry Bentonite
Filter
6–12" Sandpack
0.75–2.25" Borehole Diameter
Hydrated Granular Bentonite
Filter
6–12" Dry Bentonite
6–12" Sandpack
0.75–2.25" Borehole Diameter
Tubing Options
Sizes: 1/8" or 1/4"
Types: Nylaflow or Teflon
Filter Options
Airstone[1]
Stainless Steel Mesh[2]
Sizes: 2" Implant, 6" Screen, 12" Screen
Termination Valve Options
On/Off Luer Valve
Swagelok Fitting
[1] Recommended for temporary installations
[2] Recommended for semi- or permanent installations
Soil Vapor Probe Construction Diagrams

Figure 2

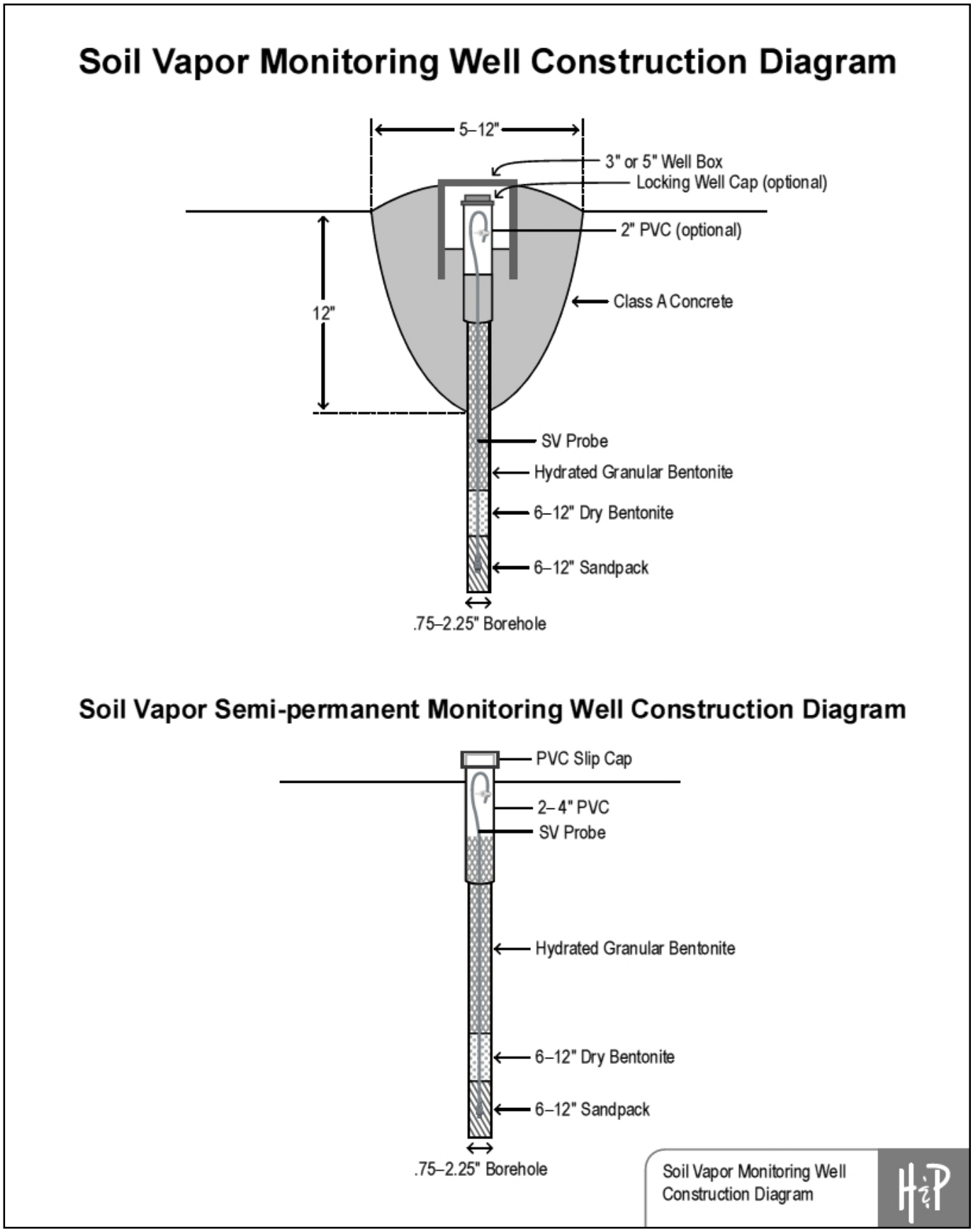
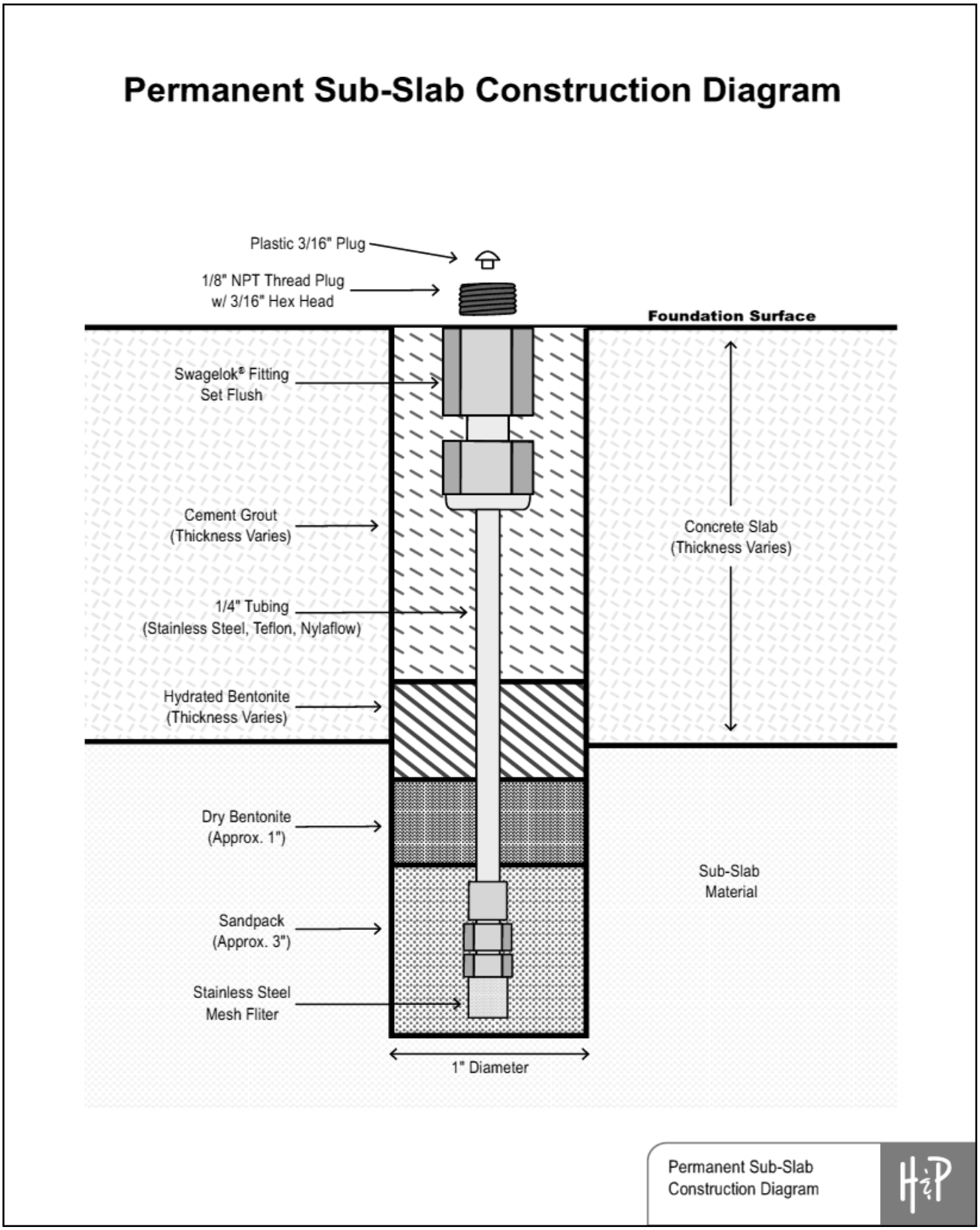

Soil Vapor Monitoring Well Construction Diagram
5–12"
3" or 5" Well Box
Locking Well Cap (optional)
2" PVC (optional)
Class A Concrete
12"
SV Probe
Hydrated Granular Bentonite
6–12" Dry Bentonite
6–12" Sandpack
.75–2.25" Borehole
Soil Vapor Semi-permanent Monitoring Well Construction Diagram
PVC Slip Cap
2–4" PVC
SV Probe
Hydrated Granular Bentonite
6–12" Dry Bentonite
6–12" Sandpack
.75–2.25" Borehole
Soil Vapor Monitoring Well Construction Diagram

Figure 3


Permanent Sub-Slab Construction Diagram
Plastic 3/16" Plug
1/8" NPT Thread Plug
w/ 3/16" Hex Head
Foundation Surface
Swagelok® Fitting
Set Flush
Cement Grout
(Thickness Varies)
1/4" Tubing
(Stainless Steel, Teflon, Nylaflow)
Hydrated Bentonite
(Thickness Varies)
Concrete Slab
(Thickness Varies)
Dry Bentonite
(Approx. 1")
Sub-Slab
Material
Sandpack
(Approx. 3")
Stainless Steel
Mesh Fliter
1" Diameter
Permanent Sub-Slab
Construction Diagram

Appendix B

SOIL VAPOR SAMPLING USING A HELIUM SHROUD FOR LEAK TESTING

Gaseous tracer compounds, such as helium, can be used to evaluate soil vapor sample integrity. The tracer gas is contained in a shroud which is then placed over the soil vapor probe location and the entire sample train, evaluating any leaks in the sampling system. If there is not a mobile lab onsite, the use of helium provides a quantitative determination of a leak in the sample system prior to collection of the soil vapor sample.

Shroud Design

H&P uses a custom built acrylic shroud, which is designed in size to contain H&P's sample train and summa canisters, as well as the soil vapor probe construction. Efforts have been made to minimize the shroud size as much as possible in order to limit the volume of helium used for each sample. The bottom edge of the shroud is lined with foam weather stripping to allow for good contact with the ground surface. The shroud is equipped with three ports, each of which serves a specific function. One port allows for the introduction of the helium gas. A second port allows for the Helium detector to be attached in order to monitor concentration levels of the Helium gas within the shroud. And the third port is a bulkhead union which allows for the purging device (i.e. Syringe, pump) to connect to the outside barb, and a connector piece of tubing from the sample train is attached to the inside barb. A magnahelic gauge, with a negative pressure range of 0 – 150" H20, is mounted on the face of the shroud to monitor the vapor probe vacuum pressure as the sample is collected. A three way valve is also mounted on the face with connections inside the shroud that allow the soil vapor well to be purged while shutting off the sample train and summa canister, and then turned so that the probe air flow is directed towards the summa canister for collection. See figure B-1.

Sample Procedure Set Up

Prior to purging and sampling, a shut in test is performed on all of the above ground fittings to check for any potential leaks in the sample train. This is achieved by attaching all of the sample train components, including all connections within the shroud, to the termination valve on the soil vapor probe. With the valve attached to the soil vapor probe in the "off" position, the purge syringe or vacuum pump is used to evacuate the sample train of air to a minimum measured vacuum of approximately 100 inches of water. The vacuum is observed on both the magnahelic vacuum gauge built into the shroud, and the vacuum gauge attached to the sample kit connected to the summa canister. Each vacuum gauge is observed for one minute and all above ground connections will be considered "air-tight" if the pressure on the gauge does not noticeable dissipate. If there is an observable loss in vacuum, the fittings in the sample train are checked and tightened, and the test is repeated. Purging and sampling is not commenced until the above ground fittings are deemed air-tight.

Once the shut in test has been completed, the 3-way valve on the shroud is turned so that the line is open for purging and the line to the summa canister is off. The summa canister is then opened and the vacuum gauge on the sample kit will rise and read the vacuum of the summa. This vacuum is held in this line until sampling is to commence. The probe valve is then opened and the shroud is placed over the entire sample train. Attempts to seal the bottom of the shroud are made by adjusting the foam stripping, or mounding soil around the base. Weights may also be added to the top of the shroud to help with sealing of the bottom edge.

A calibrated, helium leak detector (model MGD 2002) is attached to a designated port near the base of the shroud. Ultrapure lab grade helium is slowly introduced into the shroud through another designated port near the top surface. The meter is monitored until the shroud is filled with a concentration of helium that is greater than 50%. Once the detector shows that the helium concentration has stabilized, this initial shroud concentration is recorded. Helium concentrations inside the shroud are carefully monitored and maintained to correct variations in concentrations due to wind and uniformity of the ground surface. Should the concentrations drop to 50% or below at any time during the purging and sample collection, additional helium is added to the shroud.

Purging

With the shroud concentration at or above 50% helium, purging of the probe can begin. Purging is done with a syringe (for small purge volume probes), or with a vacuum pump. Flow rates between 100 to 200 mL/min and probe vacuum pressures of less than 100 inches of water are maintained during purging and sampling of the soil vapor probe to minimize stripping, and to prevent ambient air from diluting the soil vapor samples. Vacuum pressures are measured by a magnahelic vacuum gauge mounted on the face of the shroud. This gauge is attached via a “T” fitting which is connected in line to the connector tubing running from the soil vapor probe valve to the 3 way valve on the shroud.

Once the purge volumes have been determined and purging is commenced, the final 300 mL of purge air expelled is captured into a Tedlar bag for testing of the helium tracer gas. If the concentration of the helium in the purge sample is greater than or equal to 5% of the helium concentration maintained in the shroud, corrective action is taken to remedy the leak.

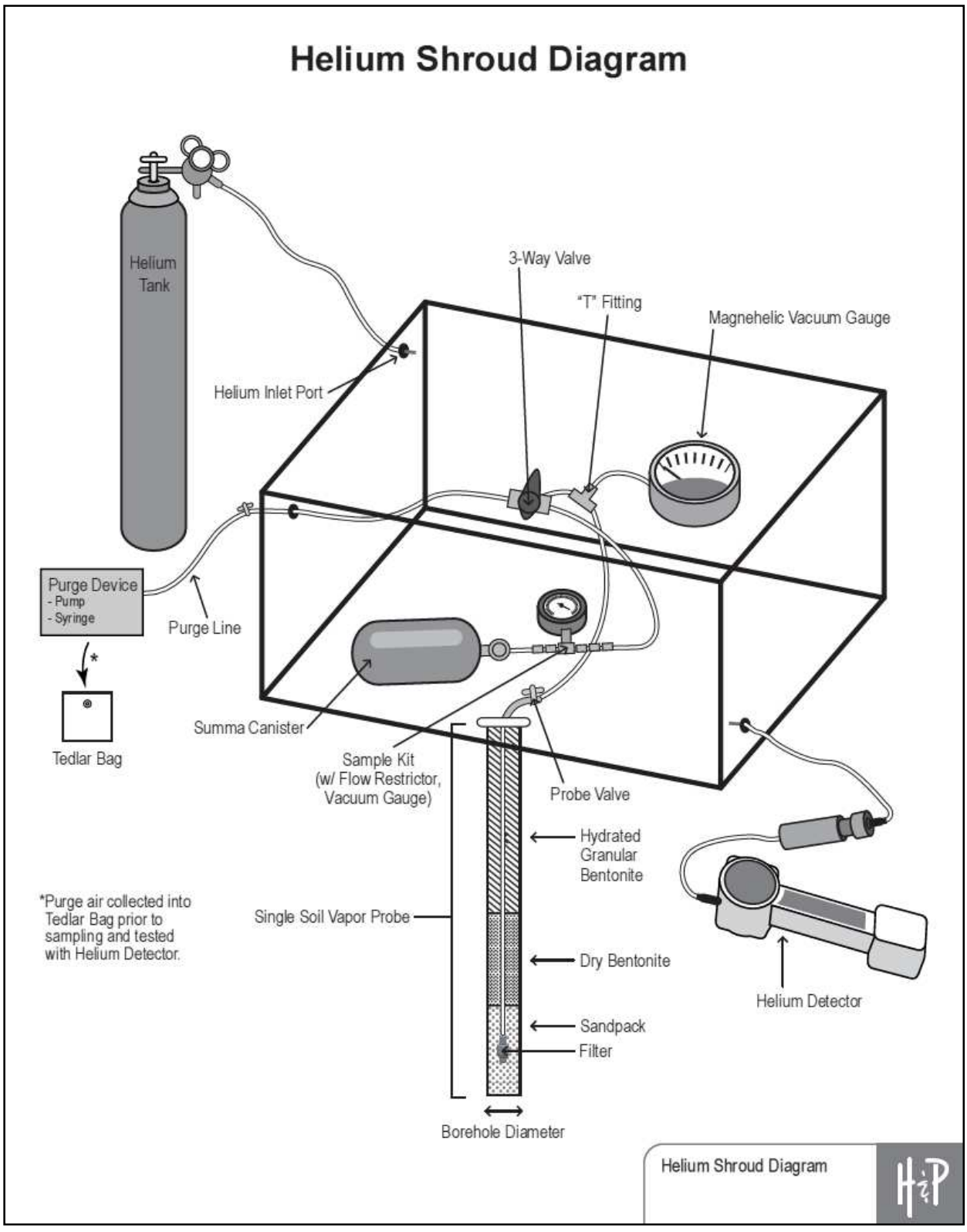
Note: If the purge volume of the soil vapor probe is small, which is often the case with sub slab soil gas probes or with probes which are being purged of tubing volumes only, it may not be possible to collect enough purge air in the Tedlar bag for the helium detector to use. In such cases, there are some options that may amend the sample procedures. The first option is to increase the purge volumes taken out of the soil gas probe in order to have adequate sample for the helium detector. The second option is to test the soil gas probe for leaks after the summa canister has been collected. This can be problematic if leaks are detected over the acceptable criteria because the summa canisters used for that collection will then be expired.

Summa Sample Collection

With the Tedlar bag of purge air tested and deemed to have a concentration of less than 5% of helium in the shroud, the sample is then collected into the summa canister. The 3-way valve on the shroud is turned so the tubing from the soil vapor probe is open to the sample train. Because the summa was previously opened and holding a vacuum, it will then begin to slowly fill with the soil vapor sample. The flow rate is regulated by a critical orifice flow restrictor to the desire rate (typically less than 200 mL/min). Once filled, the 3-way valve on the helium shroud should be turned so that the tubing to the sample train is off.

A final measurement of the helium concentration of the shroud is taken and recorded. The shroud is then lifted and the valve on the summa canister is turned off. All fittings within the shroud are disassembled and the summa canister is disconnected from the sample assembly and prepared for the lab. All tubing and fittings inside the shroud are replaced with new, unused materials for the next sample collection.

Figure B-1


Helium Shroud Diagram
Helium Tank
3-Way Valve
"T" Fitting
Magnehelic Vacuum Gauge
Helium Inlet Port
Purge Device
- Pump
- Syringe
Purge Line
*
Tedlar Bag
Summa Canister
Sample Kit
(w/ Flow Restrictor,
Vacuum Gauge)
Probe Valve
Hydrated
Granular
Bentonite
*Purge air collected into
Tedlar Bag prior to
sampling and tested
with Helium Detector.
Single Soil Vapor Probe
Dry Bentonite
Helium Detector
Sandpack
Filter
Borehole Diameter
Helium Shroud Diagram

Appendix C

Soil Vapor and Air Field Record Forms

- FMS002 - Soil Vapor Probe Installation
- FMS003 – Subslab Installation
- FMS004 – Soil Vapor Sampling Syringe
- FMS005 – Soil Vapor Sampling Summa Canister
- FMS006 – Soil Vapor Sampling Shroud
- FMS007 – Soil Vapor Sampling Sorbent
- FMS008 – Air Sampling
- FMS009 – Landtec
- FMS010 – Jerome
- FMS011 – Diffusion Coefficient
- FMS012 – Soil Permeability
- FMS013 – Differential Pressure
- Chain of Custody

Mobile Geochemistry Inc.

Log Sheet: Vapor Probe Installation

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

	Point ID	Date	Time Placed	Probe Depth (ft)	Tubing Length (ft)	Sand Pack Ht (in.)	Sand Pack Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Filter Type		Tubing (Nylaflow, Teflon, Stainless Steel)					Probe Termination			Date Probe Abandoned	Field Notes: (Surface cover, moisture, DPT equipment used, PRT sampling, refusals, well box size, concrete dia, etc.)
										Air stone	SS Implant	1/8" OD	1/4" OD	N	T	SS	1-way Valve	Swagelok 1/8"	Swagelok 1/4"		
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Site Notes (e.g. weather, visitors, scope deviations, health & safety issues, broken/unrecovered tools, etc.):

Mobile Geochemistry Inc.

Log Sheet: Subslab Installation

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

	Point ID	Location of Installation	Date	Time Placed	Slab Thickness (in.)	Probe Depth (in)	Tubing Length (ft)	Sand Pack Ht (in.)	Sand Pack Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Filter Type		Tubing (Nylaflow, Teflon, Stainless Steel)					Probe Termination			Date Probe Abandoned	Field Notes: (Surface cover, moisture, refusals, etc.)
												Air stone	SS Implant	1/8" OD	1/4" OD	N	T	SS	1-way Valve	Swagelok 1/8"	Swagelok 1/4"		
1																							
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

Site Notes (e.g. weather, visitors, scope deviations, health & safety issues, broken/unrecovered tools, etc.):

Mobile Geochemistry Inc.

Log Sheet: Soil Vapor Sampling with Syringe

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

Equipment Info	**Purge Volume Information**	**Leak Check Compound**	*Resample Key*
Inline Gauge ID#:	PV Amount: PV Includes: ☐ Tubing	*A cloth saturated with LCC is placed around tubing connections and probe seal. This is done for all samples unless otherwise noted.*	☐ 1,1-DFA
Pump ID#:	☐ Sand 40%		☐ 1,1,1,2-TFA
	☐ Dry Bent 50%		☐ IPA
			☐ Other:

RS = Resample
RD = for Dilution
RL = for LCC Fail

	Sample Information				**Probe Specs**							**Purge & Collection Information**						
	Point ID	Syringe ID	Sample Volume (cc)	Sample Time	Probe Depth (ft)	Tubing Length (ft)	Tubing OD (in.)	Sand Ht (in.)	Sand Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Shut In Test 60 sec (✓)	Leak Check (✓)	Purge Vol (mL)	Purge Flow Rate (mL/min)	Pump Time (min:sec)	Sample Flow Rate (mL/min)	ProbeVac ☐ Hg ☐ H_2O
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Site Notes such as weather, visitors, scope deviations, health & safety issues, etc. (When making sample specific notes, reference the line number above):

H&P Mobile Geochemistry Inc.

Log Sheet: Soil Vapor Sampling with Summa

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

Equipment Info
Inline Gauge ID#:
Pump ID#:

Purge Volume Information
PV Amount: PV Includes: ☐ Tubing ☐ Sand 40% ☐ Dry Bent 50%

Leak Check Compound
A cloth saturated with LCC is placed around tubing connections and probe seal. This is done for all samples unless otherwise noted.
☐ 1,1-DFA ☐ 1,1,1,2-TFA ☐ IPA ☐ Other:

	Sample and Summa Information							Probe Specs							Purge & Collection Information						
	Point ID	Summa ID #	Sample Kit ID #	Start Time	Initial Vac (" Hg)	End / Sample Time	End Vac (" Hg)	Probe Depth (ft)	Tubing Length (ft)	Tubing OD (in.)	Sand Ht (in.)	Sand Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Shut In Test 60 sec (✓)	Leak Check (✓)	Purge Vol (mL)	Purge Flow Rate (mL/min)	Pump Time (min:sec)	Sample Flow Rate (mL/min)	ProbeVac ☐ Hg ☐ H_2O
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Site Notes such as weather, visitors, scope deviations, health & safety issues, etc. (When making sample specific notes, reference the line number above):

Mobile Geochemistry Inc.

Log Sheet: Soil Vapor Sampling with Helium Shroud

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

Equipment Info
Inline Gauge ID#:
Pump ID#:
He Meter ID#:
Shroud ID#:

Purge Volume
PV Amount:
PV Includes:
☐ Tubing
☐ Sand 40%
☐ Dry Bent 50%

MGD 2002 Helium Detector Calibration		
	Time	*Helium (%)*
Calibration Standard	n/a	2.5
Opening Calibration		
Closing Calibration		
Acceptable Range	n/a	2.1 - 2.9

Shroud Procedure:

	Sample and Summa Information							Probe Specs							Purge & Collection Information						Shroud Info		
	Point ID	Summa ID #	Sample Kit ID #	Start Time	Initial Vac ("Hg)	End / Sample Time	End Vac ("Hg)	Probe Depth (ft)	Tube Length (ft)	Tube OD (in.)	Sand Ht (in.)	Sand Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Shut In Test 60 sec (✓)	Purge Vol (mL)	Purge Flow Rate (mL/min)	Pump Time (min: sec)	Sample Flow Rate (mL/min)	ProbeVac ☐ Hg ☐ H_2O	He % Before	He % After	Probe ppmv
1																							
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Site Notes such as weather, visitors, scope deviations, health & safety issues, etc. (When making sample specific notes, reference the line number above):

Mobile Geochemistry Inc.

Log Sheet: Soil Vapor Sampling with Sorbent Tube

H&P Project #: _____ Date: _____

Site Address: _____ Page: of

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

Equipment Info
Inline Gauge ID#:
Pump ID#:

Purge Volume Information
PV Amount: PV Includes: ☐ Tubing ☐ Sand 40% ☐ Dry Bent 50%

Leak Check Compound
A cloth saturated with LCC is placed around tubing connections and probe seal. This is done for all samples unless otherwise noted.
☐ 1-Butanol ☐ Other:

	Sample and Sorbent Tube Information						Probe Specs							Purge & Collection Information						
	Point ID	Sorbent Tube ID #	Start Time	End / Sample Time	Total Sample Time (min)	Total Sample Volume (mL)	Probe Depth (ft)	Tubing Length (ft)	Tubing OD (in.)	Sand Ht (in.)	Sand Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Shut In Test 60 sec (✓)	Leak Check (✓)	Purge Vol (mL)	Purge Flow Rate (mL/min)	Pump Time (min:sec)	Sample Flow Rate (mL/min)	ProbeVac ☐ Hg ☐ H_2O
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Site Notes such as weather, visitors, scope deviations, health & safety issues, etc. (When making sample specific notes, reference the line number above):

H&P Mobile Geochemistry Inc.

Log Sheet: Indoor/Ambient Air Sampling

H&P Project #: _____ Consultant: _____

Site Address: _____ Consultant Rep: _____ *Reviewed:* _____

_____ H&P Rep: _____ *Scanned:* _____

		SAMPLE ID:							
Summa ID #:		Start Date:		Check Date:		Check Date:		End Date:	
Flow Cont ID #:		Start Time:		Check Time:		Check Time:		End Time:	
Flow Rate (hrs or cc/min):		Start Vacuum ("Hg):		Check Vac ("Hg):		Check Vac ("Hg):		End Vac ("Hg):	

Summa Canister Height above Ground (ft):
Description of Summa Canister Placement:

DIAGRAM (and/or send photo to H&P PM):

Outdoor Temp Hi (F):		Barometric Pressure:		Weather Conditions:
Outdoor Temp Low (F):		Wind Speed:		
Indoor Temp Avg (F):		Wind Direction:		

PRODUCT INVENTORY (nearby products that may contain chemicals of concern; continue on back if needed):

Name of Product	List of Chemicals

OUTDOOR SOURCES (possible sources of chemicals of concern from outdoor activities; continue on back if needed):

Source	Location

Mobile Geochemistry Inc.

Log Sheet: Landtec Meter

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

Landtec GEM 2000 Calibration						
	Time	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*N_2 (%)*	*Barometric Pressure ("Hg)*
Calibration Standard	n/a	15	15	4	70	n/a
Opening Calibration						
Closing Calibration						
Acceptable Range	n/a	13.5 - 16.5	13.5 - 16.5	2.5 - 5.5	55 - 85	n/a

LADBS Certification Info

Methane Testing License #10231

Instrument: Landtec GEM 2000

Instrument Accuracy: ±3% CH_4

Landtec Equipment ID#: 018

Manometer ID#:

	Point ID	Sample Time	Probe Depth (ft)	CH_4 (%)	CO_2 (%)	O_2 (%)	N_2 (%)	Barometric Pressure ("Hg)	Probe Pressure ("H_2O)	Field Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Site Notes (e.g. weather, visitors, scope deviations, health & safety issues, etc.):

H&P Mobile Geochemistry Inc.

Log Sheet: Jerome H_2S Meter

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

Jerome 631X GFD H_2S Meter			
	Time	*H_2S (ppmv)*	*Barometric Pressure ("Hg)*
Calibration Standard	n/a	1	n/a
Opening Calibration			
Closing Calibration			
Acceptable Range	n/a	0.75 - 1.25	n/a

Instrument Info
Instrument: Jerome 631X GFD
H&P Equipment ID #019

	Point ID	Sample Time	Probe Depth (ft)	H_2S (ppmv)	Barometric Pressure ("Hg)	Field Notes
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Site Notes (e.g. weather, visitors, scope deviations, health & safety issues, etc.):

H&P Mobile Geochemistry Inc.

Log Sheet: Measurements for Effective Diffusion Coefficient

H&P Project #: _____ Date: _____

Site Address: _____ Page: of

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ *Scanned:*_____

Probe Specs						
Sample/Probe ID	Probe Depth (ft)	Tubing Length (ft)	Tubing Dia (in.)	Sand Pack Dia (in.)	Sand Pack Height (in.)	One Dead Volume (mL)

MGD 2002 Helium Detector Equipment ID # ____		
	Time	Helium %
Calibration Standard	*na*	2.5
Opening Calibration		
Closing Calibration		
Acceptable Range	*na*	2.1 - 2.9

Tracer Mixture Preparation in Tedlar				
Tracer Compound	Concentration of tracer standard injected into tedlar bag, ppmv	Volume of tracer standard injected into tedlar bag, mL	Amount of clean air injected into tedlar bag, mL	Final concentration of tracer in tedlar bag, ppmv (C_o)
Helium				

OR

Tracer Mixture in Summa		
Tracer Compound	Laboratory Result for Helium in Summa, ppmv (C_o)	Field Confirmation of Concentration, ppmv
Helium		

	Inject and Measure				Extract, Measure, and Reset				
Time (t_s) = time between injection and extraction (min)	Concentration of tracer, ppmv (C_o)	Volume of TRACER injected, mL (V_o)	Volume of AIR injected, mL (one dead volume calculated above)	Time of Injection (after injection is complete)	Time of Extraction (when extraction begins)	Volume of sample withdrawn, mL (V_s), ≥10x injected AIR volume	Concentration of sample withdrawn, ppmv (C_s)	Volume injected to reset the point, Liter	Check if probe is <100ppmv after flushing
5 minutes									
15 minutes	Same as above ___	Same as above ___	Same as above ___			Same as above ___			
60 minutes	Same as above ___	Same as above ___	Same as above ___			Same as above ___			
120 minutes	Same as above ___	Same as above ___	Same as above ___			Same as above ___			
Other: _____									

Log Sheet: Soil Permeability

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

Sample Point ID	Probe Depth (feet)	Tubing Length (feet)	Tubing Size (inches)	Filter Size & Type	Sand Pack Diameter (inches)	Sand Pack Thickness (inches)

H&P Pump Equipment ID #:		H&P Permeability Board Equipment ID #:	

	Airflow Rate (Q) (cc/min)	Vacuum (P) (inches H_2O)	Notes
Open System			

	Airflow Rate (Q) (cc/min)	Vacuum (P) (inches H_2O)	Notes
Sample Point			

Site Notes (e.g. weather, visitors, scope deviations, health & safety issues, etc.):

Reference Info
1" H_2O = 0.0736" Hg
1" Hg = 13.5889" H_2O

Mobile Geochemistry Inc.

Log Sheet: Differential Pressure

H&P Project #: _____ Date: _____

Site Address: _____ Page: _____ of _____

Consultant: _____ H&P Rep(s): _____ *Reviewed:*_____

Consultant Rep(s): _____ _____ *Scanned:*_____

Instrument Info	
Instrument: Omnigurad 4 Differential Pressure Recorder	Equipment ID: Pine Rental #26432

	Point ID	Sample Time	Probe Depth (ft)	Subsurface Pressure ("WC)	Ambient Pressure ("WC)	Field Notes
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Site Notes (e.g. weather, visitors, scope deviations, health & safety issues, etc.):

Mobile Geochemistry, Inc.

2470 Impala Drive, Carlsbad, CA 92010
& Field Office - Signal Hill, CA
W handpmg.com E info@handpmg.com

VAPOR / AIR Chain of Custody

DATE:_____
Page ____of_____

Lab Client and Project Information

Lab Client/Consultant:	Project Name / #:
Lab Client Project Manager:	Project Location:
Lab Client Address:	Report E-Mail(s):
Lab Client City, State, Zip:	
Phone Number:	

Sample Receipt (Lab Use Only)

Date Rec'd:	Control #:
H&P Project #	
Lab Work Order #	
Sample Intact: ☐ Yes ☐ No ☐ See Notes Below	
Receipt Gauge ID:	Temp:
Outside Lab:	
Receipt Notes/Tracking #:	
Lab PM Initials:	

Reporting Requirements

☐ Standard Report ☐ Level III ☐ Level IV
☐ Excel EDD ☐ Other EDD:_____
☐ CA Geotracker Global ID:_____

Turnaround Time

☐ **Standard** (7 days for preliminary report, 10 days for final report)
☐ **Rush** (specify):_____

Sampler Information

Sampler(s):
Signature:
Date:

Additional Instructions to Laboratory:

Preferred VOC units (please choose one):
☐ µg/L ☐ µg/m^3 ☐ ppbv ☐ ppmv

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa, Tedlar, Tube, etc.	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standard Full List ☐ 8260SV ☐ TO-15	VOCs Short List / Project List ☐ 8260SV ☐ TO-15	Oxygenates ☐ 8260SV ☐ TO-15	Naphthalene ☐ 8260SV ☐ TO-15	TPHv as Gas ☐ 8260SVm ☐ TO-15m	Aromatic/Aliphatic Fractions ☐ 8260SVm ☐ TO-15m	Leak Check Compound ☐ DFA ☐ IPA ☐ He	Methane by EPA 8015m	Fixed Gases by ASTM D1945 ☐ CO2 ☐ O2 ☐ N2				

Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

APPENDIX C

Laboratory Reports

H&P Mobile Geochemistry Inc.

24 February 2020

Michael Anselmo
C. James & Associates, Inc.
PO Box 4832
Oceanside, CA 92052-4832

H&P Project: CJ020620-10
Client Project: 01085/ Fountain Valley Hospital

Dear Michael Anselmo:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 05-Feb-20 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody
- Sampling Logs (if applicable)

Unless otherwise noted, I certify that all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis La Roux
Laboratory Director

H&P Mobile Geochemistry, Inc. is certified under the California ELAP and the National Environmental Laboratory Accreditation Conference (NELAC). H&P is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P Mobile
Geochemistry Inc.

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760-804-9678 Phone
760-804-9159 Fax

C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P6-2.5'	E002030-01	Soil	05-Feb-20	05-Feb-20
P6-5'	E002030-02	Soil	05-Feb-20	05-Feb-20
P6-10'	E002030-03	Soil	05-Feb-20	05-Feb-20
P5-2.5'	E002030-04	Soil	05-Feb-20	05-Feb-20
P5-5'	E002030-05	Soil	05-Feb-20	05-Feb-20
P4-2.5'	E002030-06	Soil	05-Feb-20	05-Feb-20
P4-5'	E002030-07	Soil	05-Feb-20	05-Feb-20
P3-2.5'	E002030-08	Soil	05-Feb-20	05-Feb-20
P3-5'	E002030-09	Soil	05-Feb-20	05-Feb-20
P2-2.5'	E002030-10	Soil	05-Feb-20	05-Feb-20
P2-5'	E002030-11	Soil	05-Feb-20	05-Feb-20
P2-10'	E002030-12	Soil	05-Feb-20	05-Feb-20
P1-2.5'	E002030-13	Soil	05-Feb-20	05-Feb-20
P1-5'	E002030-14	Soil	05-Feb-20	05-Feb-20
P1-10'	E002030-15	Soil	05-Feb-20	05-Feb-20
P7-2.5'	E002030-16	Soil	05-Feb-20	05-Feb-20
P7-5'	E002030-17	Soil	05-Feb-20	05-Feb-20
P7-10'	E002030-18	Soil	05-Feb-20	05-Feb-20
P8-2.5'	E002030-19	Soil	05-Feb-20	05-Feb-20
P8-5'	E002030-20	Soil	05-Feb-20	05-Feb-20
P8-8'	E002030-21	Soil	05-Feb-20	05-Feb-20

Batch EB01111 - February 11, 2020

The percent recovery for 1,2-Dichloroethane fell below the method criteria in the continuing calibration verification. Any result for this analyte, for samples included in this batch, may be biased low.

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

DETECTIONS SUMMARY

Sample ID: **P6-2.5'** Laboratory ID: **E002030-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P6-5'** Laboratory ID: **E002030-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P6-10'** Laboratory ID: **E002030-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P5-2.5'** Laboratory ID: **E002030-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P5-5'** Laboratory ID: **E002030-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P4-2.5'** Laboratory ID: **E002030-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P4-5'** Laboratory ID: **E002030-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P3-2.5'** Laboratory ID: **E002030-08**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Sample ID: **P3-5'** Laboratory ID: **E002030-09**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P2-2.5'** Laboratory ID: **E002030-10**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P2-5'** Laboratory ID: **E002030-11**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P2-10'** Laboratory ID: **E002030-12**

Analyte	Result	Reporting Limit	Units	Method	Notes
Naphthalene	**9.2**	5.0	ug/kg	EPA 8260B	
Gasoline (C5-C12)	**11**	10	mg/kg	LUFT GC	D-12
Diesel (C12-C22)	**1700**	10	mg/kg	LUFT GC	

Sample ID: **P1-2.5'** Laboratory ID: **E002030-13**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P1-5'** Laboratory ID: **E002030-14**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P1-10'** Laboratory ID: **E002030-15**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P7-2.5'** Laboratory ID: **E002030-16**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Sample ID: **P7-5'** Laboratory ID: **E002030-17**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P7-10'** Laboratory ID: **E002030-18**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P8-2.5'** Laboratory ID: **E002030-19**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P8-5'** Laboratory ID: **E002030-20**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **P8-8'** Laboratory ID: **E002030-21**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,2,4-Trimethylbenzene	**7.4**	5.0	ug/kg	EPA 8260B	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

P6-2.5' (E002030-01) Soil Sampled: 05-Feb-20 Received: 05-Feb-20

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P6-2.5' (E002030-01) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.2 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.1 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*92.5 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P6-5' (E002030-02) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

H&P Mobile
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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P6-5' (E002030-02) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*	*65-135*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*90.2 %*	*52-149*		"	"	"	"	
Surrogate: Toluene-d8		*92.3 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.0 %*	*65-135*		"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P6-10' (E002030-03) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P6-10' (E002030-03) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*88.3 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*94.4 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.9 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P5-2.5' (E002030-04) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P5-2.5' (E002030-04) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*100 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*90.6 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*96.8 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*114 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P5-5' (E002030-05) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

H&P Mobile
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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P5-5' (E002030-05) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.1 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*97.2 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*94.4 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P4-2.5' (E002030-06) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P4-2.5' (E002030-06) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*104 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.3 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*93.3 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P4-5' (E002030-07) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P4-5' (E002030-07) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*86.4 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*94.3 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.8 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P3-2.5' (E002030-08) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P3-2.5' (E002030-08) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*105 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.5 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*93.5 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P3-5' (E002030-09) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P3-5' (E002030-09) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*	*65-135*		*"*	*"*	*"*	*"*	
Surrogate: 1,2-Dichloroethane-d4		*90.8 %*	*52-149*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8		*93.6 %*	*65-135*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*99.7 %*	*65-135*		*"*	*"*	*"*	*"*	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P2-2.5' (E002030-10) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P2-2.5' (E002030-10) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01015	07-Feb-20	07-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*94.3 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*95.8 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.9 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P2-5' (E002030-11) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P2-5' (E002030-11) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*100 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*88.7 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*		*65-135*	"	"	"	"	

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P2-10' (E002030-12) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P2-10' (E002030-12) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	**9.2**	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*96.0 %*	*65-135*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*86.9 %*	*52-149*		"	"	"	"	
Surrogate: Toluene-d8		*93.4 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*81.0 %*	*65-135*		"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-2.5' (E002030-13) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-2.5' (E002030-13) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*93.1 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*87.6 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*96.8 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-5' (E002030-14) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-5' (E002030-14) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*98.9 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92.2 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*98.6 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-10' (E002030-15) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

H&P Mobile
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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-10' (E002030-15) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.0 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*90.3 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*96.8 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P7-2.5' (E002030-16) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P7-2.5' (E002030-16) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*95.8 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*88.0 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*96.1 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P7-5' (E002030-17) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P7-5' (E002030-17) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.3 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*90.8 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*96.2 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P7-10' (E002030-18) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P7-10' (E002030-18) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*96.7 %*		*65-135*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*93.8 %*		*52-149*	"	"	"	"	
Surrogate: Toluene-d8		*95.9 %*		*65-135*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*		*65-135*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P8-2.5' (E002030-19) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P8-2.5' (E002030-19) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.7 %*	*65-135*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*93.0 %*	*52-149*		"	"	"	"	
Surrogate: Toluene-d8		*94.4 %*	*65-135*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*	*65-135*		"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P8-5' (E002030-20) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P8-5' (E002030-20) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01111	11-Feb-20	11-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.6 %*	*65-135*		*"*	*"*	*"*	*"*	
Surrogate: 1,2-Dichloroethane-d4		*93.4 %*	*52-149*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8		*93.8 %*	*65-135*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*109 %*	*65-135*		*"*	*"*	*"*	*"*	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P8-8' (E002030-21) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg	0.5	EB01209	12-Feb-20	12-Feb-20	EPA 8260B	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	5.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	5.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	

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Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P8-8' (E002030-21) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
m,p-Xylene	ND	10	ug/kg	0.5	EB01209	12-Feb-20	12-Feb-20	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**7.4**	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	25	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	25	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*87.0 %*	*65-135*		*"*	*"*	*"*	*"*	
Surrogate: 1,2-Dichloroethane-d4		*87.5 %*	*52-149*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8		*94.8 %*	*65-135*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*96.7 %*	*65-135*		*"*	*"*	*"*	*"*	

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Petroleum Hydrocarbon Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P6-2.5' (E002030-01) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01408	12-Feb-20	12-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P6-5' (E002030-02) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01408	12-Feb-20	12-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P6-10' (E002030-03) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01408	12-Feb-20	12-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P5-2.5' (E002030-04) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01408	12-Feb-20	12-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P5-5' (E002030-05) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01408	12-Feb-20	12-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P4-2.5' (E002030-06) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01408	12-Feb-20	12-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P4-5' (E002030-07) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01408	12-Feb-20	12-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Petroleum Hydrocarbon Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P3-2.5' (E002030-08) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01307	13-Feb-20	13-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P3-5' (E002030-09) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01307	13-Feb-20	13-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P2-2.5' (E002030-10) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01307	13-Feb-20	13-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P2-5' (E002030-11) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01307	13-Feb-20	13-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P2-10' (E002030-12) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	**11**	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	D-12
Diesel (C12-C22)	**1700**	10	"	"	"	"	"	"	
P1-2.5' (E002030-13) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01307	13-Feb-20	13-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P1-5' (E002030-14) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	

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Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Petroleum Hydrocarbon Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-10' (E002030-15) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P7-2.5' (E002030-16) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P7-5' (E002030-17) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P7-10' (E002030-18) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P8-2.5' (E002030-19) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P8-5' (E002030-20) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	
P8-8' (E002030-21) Soil Sampled: 05-Feb-20 Received: 05-Feb-20									
Gasoline (C5-C12)	ND	10	mg/kg	1	EB01409	14-Feb-20	14-Feb-20	LUFT GC	
Diesel (C12-C22)	ND	10	"	"	"	"	"	"	

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Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01015 - EPA 5030										
Blank (EB01015-BLK1)				Prepared & Analyzed: 07-Feb-20						
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg							
Chloromethane	ND	5.0	"							
Vinyl chloride	ND	5.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	5.0	"							
Trichlorofluoromethane (F11)	ND	5.0	"							
1,1-Dichloroethene	ND	5.0	"							
Methylene chloride (Dichloromethane)	ND	5.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
Diisopropyl ether (DIPE)	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
Ethyl tert-butyl ether (ETBE)	ND	5.0	"							
2,2-Dichloropropane	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
Chloroform	ND	5.0	"							
Bromochloromethane	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
1,1-Dichloropropene	ND	5.0	"							
Carbon tetrachloride	ND	5.0	"							
1,2-Dichloroethane (EDC)	ND	5.0	"							
Tertiary-amyl methyl ether (TAME)	ND	5.0	"							
Benzene	ND	5.0	"							
Trichloroethene	ND	5.0	"							
1,2-Dichloropropane	ND	5.0	"							
Bromodichloromethane	ND	5.0	"							
Dibromomethane	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
Toluene	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
1,3-Dichloropropane	ND	5.0	"							
Tetrachloroethene	ND	5.0	"							

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01015 - EPA 5030										
Blank (EB01015-BLK1)				Prepared & Analyzed: 07-Feb-20						
Dibromochloromethane	ND	5.0	ug/kg							
Chlorobenzene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Styrene	ND	5.0	"							
Bromoform	ND	5.0	"							
Isopropylbenzene (Cumene)	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	5.0	"							
1,2,3-Trichloropropane	ND	5.0	"							
n-Propylbenzene	ND	5.0	"							
Bromobenzene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
2-Chlorotoluene	ND	5.0	"							
4-Chlorotoluene	ND	5.0	"							
tert-Butylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
sec-Butylbenzene	ND	5.0	"							
p-Isopropyltoluene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							
n-Butylbenzene	ND	5.0	"							
1,2-Dichlorobenzene	ND	5.0	"							
1,2-Dibromo-3-chloropropane	ND	25	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
Hexachlorobutadiene	ND	5.0	"							
Naphthalene	ND	5.0	"							
1,2,3-Trichlorobenzene	ND	5.0	"							
Tertiary-butyl alcohol (TBA)	ND	25	"							
Surrogate: Dibromofluoromethane	*24.8*		*"*	*25.0*		*99.1*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*22.4*		*"*	*25.0*		*89.6*	*52-149*			
Surrogate: Toluene-d8	*23.8*		*"*	*25.0*		*95.0*	*65-135*			

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01015 - EPA 5030										
Blank (EB01015-BLK1)				Prepared & Analyzed: 07-Feb-20						
Surrogate: 4-Bromofluorobenzene	*26.7*		*ug/kg*	*25.0*		*107*	*65-135*			
Matrix Spike (EB01015-MS1)		**Source: E002030-01**		Prepared & Analyzed: 07-Feb-20						
Dichlorodifluoromethane (F12)	45	5.0	ug/kg	50.0	ND	90.7	29-149			
Chloromethane	50	5.0	"	50.0	ND	100	50-136			
Vinyl chloride	43	5.0	"	50.0	ND	85.2	56-135			
Bromomethane	52	5.0	"	50.0	ND	105	53-143			
Chloroethane	42	5.0	"	50.0	ND	84.6	59-139			
Trichlorofluoromethane (F11)	50	5.0	"	50.0	ND	99.7	62-140			
1,1-Dichloroethene	55	5.0	"	50.0	ND	110	70-131			
Methylene chloride (Dichloromethane)	54	5.0	"	50.0	ND	107	70-128			
Methyl tertiary-butyl ether (MTBE)	46	5.0	"	50.0	ND	92.3	73-125			
trans-1,2-Dichloroethene	59	5.0	"	50.0	ND	117	74-125			
Diisopropyl ether (DIPE)	5.4	5.0	"	50.0	ND	10.8	69-127			
1,1-Dichloroethane	53	5.0	"	50.0	ND	107	76-125			
Ethyl tert-butyl ether (ETBE)	5.0	5.0	"	50.0	ND	10.1	72-126			
2,2-Dichloropropane	50	5.0	"	50.0	ND	100	67-133			
cis-1,2-Dichloroethene	56	5.0	"	50.0	ND	112	77-123			
Chloroform	52	5.0	"	50.0	ND	105	78-123			
Bromochloromethane	56	5.0	"	50.0	ND	112	78-125			
1,1,1-Trichloroethane	51	5.0	"	50.0	ND	103	73-130			
1,1-Dichloropropene	55	5.0	"	50.0	ND	110	76-125			
Carbon tetrachloride	52	5.0	"	50.0	ND	105	70-135			
1,2-Dichloroethane (EDC)	47	5.0	"	50.0	ND	94.1	73-128			
Tertiary-amyl methyl ether (TAME)	5.1	5.0	"	50.0	ND	10.1	73-126			
Benzene	55	5.0	"	50.0	ND	109	77-121			
Trichloroethene	58	5.0	"	50.0	ND	116	77-123			
1,2-Dichloropropane	54	5.0	"	50.0	ND	108	76-123			
Bromodichloromethane	53	5.0	"	50.0	ND	107	75-127			
Dibromomethane	53	5.0	"	50.0	ND	106	78-125			
cis-1,3-Dichloropropene	52	5.0	"	50.0	ND	104	74-126			
Toluene	53	5.0	"	50.0	ND	107	77-121			
trans-1,3-Dichloropropene	45	5.0	"	50.0	ND	90.3	71-130			

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01015 - EPA 5030										
Matrix Spike (EB01015-MS1)	**Source: E002030-01**			Prepared & Analyzed: 07-Feb-20						
1,1,2-Trichloroethane	52	5.0	ug/kg	50.0	ND	103	78-121			
1,2-Dibromoethane (EDB)	51	5.0	"	50.0	ND	103	78-122			
1,3-Dichloropropane	50	5.0	"	50.0	ND	99.1	77-121			
Tetrachloroethene	51	5.0	"	50.0	ND	103	73-128			
Dibromochloromethane	51	5.0	"	50.0	ND	102	74-126			
Chlorobenzene	50	5.0	"	50.0	ND	100	79-120			
Ethylbenzene	51	5.0	"	50.0	ND	102	76-122			
1,1,1,2-Tetrachloroethane	54	5.0	"	50.0	ND	108	78-125			
m,p-Xylene	110	10	"	100	ND	107	77-124			
o-Xylene	52	5.0	"	50.0	ND	104	77-123			
Styrene	52	5.0	"	50.0	ND	104	76-124			
Bromoform	42	5.0	"	50.0	ND	83.4	67-132			
Isopropylbenzene (Cumene)	52	5.0	"	50.0	ND	105	68-134			
1,1,2,2-Tetrachloroethane	48	5.0	"	50.0	ND	96.1	70-124			
1,2,3-Trichloropropane	49	5.0	"	50.0	ND	98.6	73-125			
n-Propylbenzene	54	5.0	"	50.0	ND	108	73-125			
Bromobenzene	51	5.0	"	50.0	ND	102	78-121			
1,3,5-Trimethylbenzene	51	5.0	"	50.0	ND	101	73-124			
2-Chlorotoluene	50	5.0	"	50.0	ND	101	75-122			
4-Chlorotoluene	55	5.0	"	50.0	ND	111	72-124			
tert-Butylbenzene	49	5.0	"	50.0	ND	97.2	73-125			
1,2,4-Trimethylbenzene	56	5.0	"	50.0	ND	112	75-123			
sec-Butylbenzene	54	5.0	"	50.0	ND	108	73-126			
p-Isopropyltoluene	58	5.0	"	50.0	ND	115	73-127			
1,3-Dichlorobenzene	53	5.0	"	50.0	ND	105	77-121			
1,4-Dichlorobenzene	51	5.0	"	50.0	ND	102	75-120			
n-Butylbenzene	53	5.0	"	50.0	ND	106	70-128			
1,2-Dichlorobenzene	51	5.0	"	50.0	ND	102	78-121			
1,2-Dibromo-3-chloropropane	42	25	"	50.0	ND	83.8	61-132			
1,2,4-Trichlorobenzene	47	5.0	"	50.0	ND	93.0	67-129			
Hexachlorobutadiene	47	5.0	"	50.0	ND	93.6	61-135			
Naphthalene	45	5.0	"	50.0	ND	89.4	62-129			
1,2,3-Trichlorobenzene	50	5.0	"	50.0	ND	100	66-130			
Tertiary-butyl alcohol (TBA)	25	25	"	250	ND	9.95	68-133			

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01015 - EPA 5030										
Matrix Spike (EB01015-MS1)	**Source: E002030-01**			Prepared & Analyzed: 07-Feb-20						
Surrogate: Dibromofluoromethane	*25.7*		*ug/kg*	*25.0*		*103*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*22.1*		*"*	*25.0*		*88.6*	*52-149*			
Surrogate: Toluene-d8	*24.3*		*"*	*25.0*		*97.2*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*24.2*		*"*	*25.0*		*96.8*	*65-135*			
Matrix Spike Dup (EB01015-MSD1)	**Source: E002030-01**			Prepared & Analyzed: 07-Feb-20						
Dichlorodifluoromethane (F12)	43	5.0	ug/kg	50.0	ND	85.3	29-149	6.10	30	
Chloromethane	49	5.0	"	50.0	ND	98.3	50-136	2.17	30	
Vinyl chloride	40	5.0	"	50.0	ND	80.0	56-135	6.29	30	
Bromomethane	51	5.0	"	50.0	ND	101	53-143	3.18	30	
Chloroethane	39	5.0	"	50.0	ND	78.1	59-139	7.96	30	
Trichlorofluoromethane (F11)	47	5.0	"	50.0	ND	93.5	62-140	6.46	30	
1,1-Dichloroethene	52	5.0	"	50.0	ND	104	70-131	6.23	30	
Methylene chloride (Dichloromethane)	54	5.0	"	50.0	ND	108	70-128	0.954	30	
Methyl tertiary-butyl ether (MTBE)	47	5.0	"	50.0	ND	94.0	73-125	1.85	30	
trans-1,2-Dichloroethene	57	5.0	"	50.0	ND	114	74-125	2.97	30	
Diisopropyl ether (DIPE)	5.4	5.0	"	50.0	ND	10.8	69-127	0.139	30	
1,1-Dichloroethane	51	5.0	"	50.0	ND	103	76-125	3.77	30	
Ethyl tert-butyl ether (ETBE)	5.1	5.0	"	50.0	ND	10.1	72-126	0.792	30	
2,2-Dichloropropane	48	5.0	"	50.0	ND	96.5	67-133	3.92	30	
cis-1,2-Dichloroethene	55	5.0	"	50.0	ND	110	77-123	2.41	30	
Chloroform	50	5.0	"	50.0	ND	99.7	78-123	4.90	30	
Bromochloromethane	55	5.0	"	50.0	ND	110	78-125	1.59	30	
1,1,1-Trichloroethane	49	5.0	"	50.0	ND	97.4	73-130	5.51	30	
1,1-Dichloropropene	52	5.0	"	50.0	ND	105	76-125	4.47	30	
Carbon tetrachloride	50	5.0	"	50.0	ND	99.0	70-135	5.71	30	
1,2-Dichloroethane (EDC)	47	5.0	"	50.0	ND	93.6	73-128	0.565	30	
Tertiary-amyl methyl ether (TAME)	5.3	5.0	"	50.0	ND	10.6	73-126	4.73	30	
Benzene	52	5.0	"	50.0	ND	105	77-121	4.22	30	
Trichloroethene	57	5.0	"	50.0	ND	114	77-123	2.35	30	
1,2-Dichloropropane	53	5.0	"	50.0	ND	107	76-123	1.03	30	
Bromodichloromethane	52	5.0	"	50.0	ND	105	75-127	1.66	30	
Dibromomethane	54	5.0	"	50.0	ND	108	78-125	1.49	30	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01015 - EPA 5030										
Matrix Spike Dup (EB01015-MSD1)	**Source: E002030-01**			Prepared & Analyzed: 07-Feb-20						
cis-1,3-Dichloropropene	52	5.0	ug/kg	50.0	ND	104	74-126	0.299	30	
Toluene	51	5.0	"	50.0	ND	101	77-121	4.93	30	
trans-1,3-Dichloropropene	46	5.0	"	50.0	ND	91.8	71-130	1.74	30	
1,1,2-Trichloroethane	52	5.0	"	50.0	ND	105	78-121	1.55	30	
1,2-Dibromoethane (EDB)	54	5.0	"	50.0	ND	108	78-122	4.72	30	
1,3-Dichloropropane	53	5.0	"	50.0	ND	105	77-121	5.90	30	
Tetrachloroethene	52	5.0	"	50.0	ND	104	73-128	0.882	30	
Dibromochloromethane	54	5.0	"	50.0	ND	108	74-126	5.09	30	
Chlorobenzene	52	5.0	"	50.0	ND	105	79-120	4.10	30	
Ethylbenzene	55	5.0	"	50.0	ND	110	76-122	7.51	30	
1,1,1,2-Tetrachloroethane	58	5.0	"	50.0	ND	116	78-125	7.09	30	
m,p-Xylene	110	10	"	100	ND	108	77-124	1.55	30	
o-Xylene	55	5.0	"	50.0	ND	109	77-123	4.82	30	
Styrene	53	5.0	"	50.0	ND	107	76-124	2.78	30	
Bromoform	46	5.0	"	50.0	ND	91.4	67-132	9.16	30	
Isopropylbenzene (Cumene)	49	5.0	"	50.0	ND	98.7	68-134	6.18	30	
1,1,2,2-Tetrachloroethane	48	5.0	"	50.0	ND	95.4	70-124	0.752	30	
1,2,3-Trichloropropane	49	5.0	"	50.0	ND	97.5	73-125	1.14	30	
n-Propylbenzene	50	5.0	"	50.0	ND	100	73-125	6.94	30	
Bromobenzene	50	5.0	"	50.0	ND	101	78-121	1.59	30	
1,3,5-Trimethylbenzene	48	5.0	"	50.0	ND	95.4	73-124	5.93	30	
2-Chlorotoluene	48	5.0	"	50.0	ND	96.7	75-122	3.86	30	
4-Chlorotoluene	52	5.0	"	50.0	ND	105	72-124	5.78	30	
tert-Butylbenzene	47	5.0	"	50.0	ND	93.1	73-125	4.35	30	
1,2,4-Trimethylbenzene	52	5.0	"	50.0	ND	105	75-123	6.62	30	
sec-Butylbenzene	50	5.0	"	50.0	ND	99.8	73-126	8.20	30	
p-Isopropyltoluene	55	5.0	"	50.0	ND	109	73-127	5.66	30	
1,3-Dichlorobenzene	50	5.0	"	50.0	ND	99.3	77-121	5.92	30	
1,4-Dichlorobenzene	49	5.0	"	50.0	ND	99.0	75-120	2.83	30	
n-Butylbenzene	49	5.0	"	50.0	ND	98.5	70-128	7.05	30	
1,2-Dichlorobenzene	49	5.0	"	50.0	ND	98.1	78-121	3.61	30	
1,2-Dibromo-3-chloropropane	39	25	"	50.0	ND	78.0	61-132	7.23	30	
1,2,4-Trichlorobenzene	47	5.0	"	50.0	ND	93.4	67-129	0.397	30	
Hexachlorobutadiene	44	5.0	"	50.0	ND	88.3	61-135	5.84	30	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01015 - EPA 5030										
Matrix Spike Dup (EB01015-MSD1)	**Source: E002030-01**			Prepared & Analyzed: 07-Feb-20						
Naphthalene	45	5.0	ug/kg	50.0	ND	90.4	62-129	1.18	30	
1,2,3-Trichlorobenzene	49	5.0	"	50.0	ND	98.1	66-130	2.36	30	
Tertiary-butyl alcohol (TBA)	25	25	"	250	ND	9.96	68-133	0.153	30	
Surrogate: Dibromofluoromethane	*24.2*		*"*	*25.0*		*96.8*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*22.3*		*"*	*25.0*		*89.0*	*52-149*			
Surrogate: Toluene-d8	*24.3*		*"*	*25.0*		*97.4*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*23.9*		*"*	*25.0*		*95.7*	*65-135*			
Batch EB01111 - EPA 5030										
Blank (EB01111-BLK1)				Prepared & Analyzed: 11-Feb-20						
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg							
Chloromethane	ND	5.0	"							
Vinyl chloride	ND	5.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	5.0	"							
Trichlorofluoromethane (F11)	ND	5.0	"							
1,1-Dichloroethene	ND	5.0	"							
Methylene chloride (Dichloromethane)	ND	5.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
Diisopropyl ether (DIPE)	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
Ethyl tert-butyl ether (ETBE)	ND	5.0	"							
2,2-Dichloropropane	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
Chloroform	ND	5.0	"							
Bromochloromethane	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
1,1-Dichloropropene	ND	5.0	"							
Carbon tetrachloride	ND	5.0	"							
1,2-Dichloroethane (EDC)	ND	5.0	"							
Tertiary-amyl methyl ether (TAME)	ND	5.0	"							

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01111 - EPA 5030										
Blank (EB01111-BLK1)				Prepared & Analyzed: 11-Feb-20						
Benzene	ND	5.0	ug/kg							
Trichloroethene	ND	5.0	"							
1,2-Dichloropropane	ND	5.0	"							
Bromodichloromethane	ND	5.0	"							
Dibromomethane	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
Toluene	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
1,3-Dichloropropane	ND	5.0	"							
Tetrachloroethene	ND	5.0	"							
Dibromochloromethane	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Styrene	ND	5.0	"							
Bromoform	ND	5.0	"							
Isopropylbenzene (Cumene)	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	5.0	"							
1,2,3-Trichloropropane	ND	5.0	"							
n-Propylbenzene	ND	5.0	"							
Bromobenzene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
2-Chlorotoluene	ND	5.0	"							
4-Chlorotoluene	ND	5.0	"							
tert-Butylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
sec-Butylbenzene	ND	5.0	"							
p-Isopropyltoluene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01111 - EPA 5030										
Blank (EB01111-BLK1)				Prepared & Analyzed: 11-Feb-20						
n-Butylbenzene	ND	5.0	ug/kg							
1,2-Dichlorobenzene	ND	5.0	"							
1,2-Dibromo-3-chloropropane	ND	25	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
Hexachlorobutadiene	ND	5.0	"							
Naphthalene	ND	5.0	"							
1,2,3-Trichlorobenzene	ND	5.0	"							
Tertiary-butyl alcohol (TBA)	ND	25	"							
Surrogate: Dibromofluoromethane	*24.1*		*"*	*25.0*		*96.3*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*21.0*		*"*	*25.0*		*84.2*	*52-149*			
Surrogate: Toluene-d8	*23.4*		*"*	*25.0*		*93.5*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*25.5*		*"*	*25.0*		*102*	*65-135*			
LCS (EB01111-BS1)				Prepared & Analyzed: 11-Feb-20						
Dichlorodifluoromethane (F12)	38	5.0	ug/kg	50.0		76.3	29-149			
Chloromethane	36	5.0	"	50.0		71.1	50-136			
Vinyl chloride	36	5.0	"	50.0		71.2	56-135			
Bromomethane	42	5.0	"	50.0		83.8	53-143			
Chloroethane	34	5.0	"	50.0		68.3	59-139			
Trichlorofluoromethane (F11)	42	5.0	"	50.0		84.8	62-140			
1,1-Dichloroethene	48	5.0	"	50.0		96.0	70-131			
Methylene chloride (Dichloromethane)	47	5.0	"	50.0		94.2	70-128			
Methyl tertiary-butyl ether (MTBE)	44	5.0	"	50.0		88.4	73-125			
trans-1,2-Dichloroethene	50	5.0	"	50.0		101	74-125			
Diisopropyl ether (DIPE)	49	5.0	"	50.0		98.1	69-127			
1,1-Dichloroethane	46	5.0	"	50.0		92.9	76-125			
Ethyl tert-butyl ether (ETBE)	47	5.0	"	50.0		93.4	72-126			
2,2-Dichloropropane	43	5.0	"	50.0		85.7	67-133			
cis-1,2-Dichloroethene	50	5.0	"	50.0		101	77-123			
Chloroform	45	5.0	"	50.0		89.4	78-123			
Bromochloromethane	51	5.0	"	50.0		103	78-125			
1,1,1-Trichloroethane	45	5.0	"	50.0		89.9	73-130			
1,1-Dichloropropene	48	5.0	"	50.0		96.5	76-125			

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01111 - EPA 5030										
LCS (EB01111-BS1)				Prepared & Analyzed: 11-Feb-20						
Carbon tetrachloride	47	5.0	ug/kg	50.0		94.7	70-135			
1,2-Dichloroethane (EDC)	43	5.0	"	50.0		86.9	73-128			
Tertiary-amyl methyl ether (TAME)	48	5.0	"	50.0		95.2	73-126			
Benzene	48	5.0	"	50.0		96.0	77-121			
Trichloroethene	53	5.0	"	50.0		106	77-123			
1,2-Dichloropropane	49	5.0	"	50.0		97.9	76-123			
Bromodichloromethane	49	5.0	"	50.0		97.8	75-127			
Dibromomethane	51	5.0	"	50.0		103	78-125			
cis-1,3-Dichloropropene	49	5.0	"	50.0		97.7	74-126			
Toluene	48	5.0	"	50.0		96.6	77-121			
trans-1,3-Dichloropropene	42	5.0	"	50.0		83.3	71-130			
1,1,2-Trichloroethane	50	5.0	"	50.0		99.7	78-121			
1,2-Dibromoethane (EDB)	51	5.0	"	50.0		103	78-122			
1,3-Dichloropropane	50	5.0	"	50.0		99.9	77-121			
Tetrachloroethene	51	5.0	"	50.0		102	73-128			
Dibromochloromethane	53	5.0	"	50.0		105	74-126			
Chlorobenzene	50	5.0	"	50.0		100	79-120			
Ethylbenzene	52	5.0	"	50.0		105	76-122			
1,1,1,2-Tetrachloroethane	56	5.0	"	50.0		112	78-125			
m,p-Xylene	100	10	"	100		105	77-124			
o-Xylene	52	5.0	"	50.0		104	77-123			
Styrene	52	5.0	"	50.0		104	76-124			
Bromoform	48	5.0	"	50.0		95.0	67-132			
Isopropylbenzene (Cumene)	48	5.0	"	50.0		96.2	68-134			
1,1,2,2-Tetrachloroethane	48	5.0	"	50.0		95.2	70-124			
1,2,3-Trichloropropane	48	5.0	"	50.0		96.1	73-125			
n-Propylbenzene	50	5.0	"	50.0		99.6	73-125			
Bromobenzene	49	5.0	"	50.0		97.2	78-121			
1,3,5-Trimethylbenzene	48	5.0	"	50.0		95.4	73-124			
2-Chlorotoluene	49	5.0	"	50.0		97.1	75-122			
4-Chlorotoluene	52	5.0	"	50.0		104	72-124			
tert-Butylbenzene	45	5.0	"	50.0		89.6	73-125			
1,2,4-Trimethylbenzene	52	5.0	"	50.0		105	75-123			
sec-Butylbenzene	51	5.0	"	50.0		101	73-126			

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01111 - EPA 5030										
LCS (EB01111-BS1)				Prepared & Analyzed: 11-Feb-20						
p-Isopropyltoluene	54	5.0	ug/kg	50.0		109	73-127			
1,3-Dichlorobenzene	50	5.0	"	50.0		101	77-121			
1,4-Dichlorobenzene	49	5.0	"	50.0		97.7	75-120			
n-Butylbenzene	51	5.0	"	50.0		101	70-128			
1,2-Dichlorobenzene	50	5.0	"	50.0		100	78-121			
1,2-Dibromo-3-chloropropane	41	25	"	50.0		81.5	61-132			
1,2,4-Trichlorobenzene	49	5.0	"	50.0		98.7	67-129			
Hexachlorobutadiene	48	5.0	"	50.0		95.5	61-135			
Naphthalene	47	5.0	"	50.0		94.0	62-129			
1,2,3-Trichlorobenzene	53	5.0	"	50.0		106	66-130			
Tertiary-butyl alcohol (TBA)	250	25	"	250		99.7	68-133			
Surrogate: Dibromofluoromethane	*23.1*		*"*	*25.0*		*92.5*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*21.2*		*"*	*25.0*		*84.6*	*52-149*			
Surrogate: Toluene-d8	*24.3*		*"*	*25.0*		*97.0*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*24.3*		*"*	*25.0*		*97.1*	*65-135*			
Matrix Spike (EB01111-MS1)		**Source: E002030-04**		Prepared & Analyzed: 11-Feb-20						
Dichlorodifluoromethane (F12)	32	5.0	ug/kg	50.0	ND	64.3	29-149			
Chloromethane	32	5.0	"	50.0	ND	64.2	50-136			
Vinyl chloride	30	5.0	"	50.0	ND	59.1	56-135			
Bromomethane	35	5.0	"	50.0	ND	70.2	53-143			
Chloroethane	28	5.0	"	50.0	ND	56.3	59-139			QM-07
Trichlorofluoromethane (F11)	37	5.0	"	50.0	ND	73.6	62-140			
1,1-Dichloroethene	39	5.0	"	50.0	ND	78.6	70-131			
Methylene chloride (Dichloromethane)	40	5.0	"	50.0	ND	79.5	70-128			
Methyl tertiary-butyl ether (MTBE)	35	5.0	"	50.0	ND	69.2	73-125			QM-07
trans-1,2-Dichloroethene	43	5.0	"	50.0	ND	85.1	74-125			
Diisopropyl ether (DIPE)	39	5.0	"	50.0	ND	77.9	69-127			
1,1-Dichloroethane	37	5.0	"	50.0	ND	74.8	76-125			QM-07
Ethyl tert-butyl ether (ETBE)	37	5.0	"	50.0	ND	73.7	72-126			
2,2-Dichloropropane	36	5.0	"	50.0	ND	72.1	67-133			
cis-1,2-Dichloroethene	41	5.0	"	50.0	ND	81.7	77-123			
Chloroform	37	5.0	"	50.0	ND	73.6	78-123			QM-07

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Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01111 - EPA 5030										
Matrix Spike (EB01111-MS1)	**Source: E002030-04**			Prepared & Analyzed: 11-Feb-20						
Bromochloromethane	41	5.0	ug/kg	50.0	ND	81.8	78-125			
1,1,1-Trichloroethane	38	5.0	"	50.0	ND	75.4	73-130			
1,1-Dichloropropene	40	5.0	"	50.0	ND	80.0	76-125			
Carbon tetrachloride	39	5.0	"	50.0	ND	77.3	70-135			
1,2-Dichloroethane (EDC)	36	5.0	"	50.0	ND	71.0	73-128			QM-07
Tertiary-amyl methyl ether (TAME)	37	5.0	"	50.0	ND	74.1	73-126			
Benzene	39	5.0	"	50.0	ND	77.4	77-121			
Trichloroethene	43	5.0	"	50.0	ND	86.5	77-123			
1,2-Dichloropropane	39	5.0	"	50.0	ND	78.1	76-123			
Bromodichloromethane	40	5.0	"	50.0	ND	79.9	75-127			
Dibromomethane	39	5.0	"	50.0	ND	78.2	78-125			
cis-1,3-Dichloropropene	37	5.0	"	50.0	ND	74.4	74-126			
Toluene	39	5.0	"	50.0	ND	78.6	77-121			
trans-1,3-Dichloropropene	35	5.0	"	50.0	ND	69.1	71-130			QM-07
1,1,2-Trichloroethane	39	5.0	"	50.0	ND	78.0	78-121			
1,2-Dibromoethane (EDB)	42	5.0	"	50.0	ND	83.1	78-122			
1,3-Dichloropropane	39	5.0	"	50.0	ND	77.7	77-121			
Tetrachloroethene	41	5.0	"	50.0	ND	82.6	73-128			
Dibromochloromethane	42	5.0	"	50.0	ND	84.4	74-126			
Chlorobenzene	42	5.0	"	50.0	ND	83.4	79-120			
Ethylbenzene	42	5.0	"	50.0	ND	84.2	76-122			
1,1,1,2-Tetrachloroethane	44	5.0	"	50.0	ND	87.7	78-125			
m,p-Xylene	85	10	"	100	ND	85.3	77-124			
o-Xylene	43	5.0	"	50.0	ND	85.4	77-123			
Styrene	43	5.0	"	50.0	ND	85.6	76-124			
Bromoform	35	5.0	"	50.0	ND	70.3	67-132			
Isopropylbenzene (Cumene)	41	5.0	"	50.0	ND	82.1	68-134			
1,1,2,2-Tetrachloroethane	39	5.0	"	50.0	ND	78.5	70-124			
1,2,3-Trichloropropane	40	5.0	"	50.0	ND	79.4	73-125			
n-Propylbenzene	42	5.0	"	50.0	ND	84.2	73-125			
Bromobenzene	42	5.0	"	50.0	ND	83.1	78-121			
1,3,5-Trimethylbenzene	40	5.0	"	50.0	ND	80.9	73-124			
2-Chlorotoluene	40	5.0	"	50.0	ND	80.8	75-122			
4-Chlorotoluene	44	5.0	"	50.0	ND	88.6	72-124			

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01111 - EPA 5030										
Matrix Spike (EB01111-MS1)	**Source: E002030-04**			Prepared & Analyzed: 11-Feb-20						
tert-Butylbenzene	39	5.0	ug/kg	50.0	ND	79.0	73-125			
1,2,4-Trimethylbenzene	43	5.0	"	50.0	ND	86.8	75-123			
sec-Butylbenzene	42	5.0	"	50.0	ND	83.6	73-126			
p-Isopropyltoluene	45	5.0	"	50.0	ND	89.1	73-127			
1,3-Dichlorobenzene	41	5.0	"	50.0	ND	82.5	77-121			
1,4-Dichlorobenzene	40	5.0	"	50.0	ND	80.2	75-120			
n-Butylbenzene	41	5.0	"	50.0	ND	82.2	70-128			
1,2-Dichlorobenzene	40	5.0	"	50.0	ND	80.2	78-121			
1,2-Dibromo-3-chloropropane	36	25	"	50.0	ND	72.8	61-132			
1,2,4-Trichlorobenzene	37	5.0	"	50.0	ND	74.8	67-129			
Hexachlorobutadiene	34	5.0	"	50.0	ND	67.3	61-135			
Naphthalene	37	5.0	"	50.0	ND	73.7	62-129			
1,2,3-Trichlorobenzene	40	5.0	"	50.0	ND	79.2	66-130			
Tertiary-butyl alcohol (TBA)	200	25	"	250	ND	80.7	68-133			
Surrogate: Dibromofluoromethane	*23.9*		"	*25.0*		*95.7*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*22.0*		"	*25.0*		*87.9*	*52-149*			
Surrogate: Toluene-d8	*24.3*		"	*25.0*		*97.1*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*24.6*		"	*25.0*		*98.3*	*65-135*			
Matrix Spike Dup (EB01111-MSD1)	**Source: E002030-04**			Prepared & Analyzed: 11-Feb-20						
Dichlorodifluoromethane (F12)	32	5.0	ug/kg	50.0	ND	63.9	29-149	0.624	30	
Chloromethane	30	5.0	"	50.0	ND	59.8	50-136	7.10	30	
Vinyl chloride	31	5.0	"	50.0	ND	61.0	56-135	3.13	30	
Bromomethane	36	5.0	"	50.0	ND	71.8	53-143	2.21	30	
Chloroethane	29	5.0	"	50.0	ND	57.7	59-139	2.39	30	QM-07
Trichlorofluoromethane (F11)	37	5.0	"	50.0	ND	73.5	62-140	0.109	30	
1,1-Dichloroethene	40	5.0	"	50.0	ND	81.0	70-131	2.97	30	
Methylene chloride (Dichloromethane)	39	5.0	"	50.0	ND	78.7	70-128	0.974	30	
Methyl tertiary-butyl ether (MTBE)	37	5.0	"	50.0	ND	74.8	73-125	7.76	30	
trans-1,2-Dichloroethene	42	5.0	"	50.0	ND	84.6	74-125	0.542	30	
Diisopropyl ether (DIPE)	41	5.0	"	50.0	ND	82.5	69-127	5.72	30	
1,1-Dichloroethane	39	5.0	"	50.0	ND	78.0	76-125	4.31	30	
Ethyl tert-butyl ether (ETBE)	40	5.0	"	50.0	ND	79.2	72-126	7.09	30	

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C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01111 - EPA 5030										
Matrix Spike Dup (EB01111-MSD1)	**Source: E002030-04**			Prepared & Analyzed: 11-Feb-20						
2,2-Dichloropropane	37	5.0	ug/kg	50.0	ND	73.0	67-133	1.36	30	
cis-1,2-Dichloroethene	43	5.0	"	50.0	ND	86.4	77-123	5.58	30	
Chloroform	38	5.0	"	50.0	ND	76.5	78-123	3.74	30	QM-07
Bromochloromethane	45	5.0	"	50.0	ND	90.4	78-125	9.95	30	
1,1,1-Trichloroethane	38	5.0	"	50.0	ND	76.8	73-130	1.83	30	
1,1-Dichloropropene	40	5.0	"	50.0	ND	79.7	76-125	0.326	30	
Carbon tetrachloride	39	5.0	"	50.0	ND	77.4	70-135	0.168	30	
1,2-Dichloroethane (EDC)	35	5.0	"	50.0	ND	69.9	73-128	1.53	30	QM-07
Tertiary-amyl methyl ether (TAME)	40	5.0	"	50.0	ND	80.3	73-126	7.99	30	
Benzene	40	5.0	"	50.0	ND	80.6	77-121	4.09	30	
Trichloroethene	45	5.0	"	50.0	ND	89.3	77-123	3.22	30	
1,2-Dichloropropane	41	5.0	"	50.0	ND	81.2	76-123	3.90	30	
Bromodichloromethane	41	5.0	"	50.0	ND	81.3	75-127	1.69	30	
Dibromomethane	42	5.0	"	50.0	ND	84.7	78-125	7.96	30	
cis-1,3-Dichloropropene	41	5.0	"	50.0	ND	82.0	74-126	9.79	30	
Toluene	39	5.0	"	50.0	ND	78.7	77-121	0.127	30	
trans-1,3-Dichloropropene	35	5.0	"	50.0	ND	69.9	71-130	1.12	30	QM-07
1,1,2-Trichloroethane	40	5.0	"	50.0	ND	81.0	78-121	3.72	30	
1,2-Dibromoethane (EDB)	41	5.0	"	50.0	ND	81.4	78-122	2.02	30	
1,3-Dichloropropane	44	5.0	"	50.0	ND	88.0	77-121	12.5	30	
Tetrachloroethene	44	5.0	"	50.0	ND	87.4	73-128	5.68	30	
Dibromochloromethane	46	5.0	"	50.0	ND	91.5	74-126	8.16	30	
Chlorobenzene	44	5.0	"	50.0	ND	87.1	79-120	4.34	30	
Ethylbenzene	45	5.0	"	50.0	ND	90.5	76-122	7.21	30	
1,1,1,2-Tetrachloroethane	47	5.0	"	50.0	ND	93.2	78-125	6.06	30	
m,p-Xylene	89	10	"	100	ND	89.4	77-124	4.72	30	
o-Xylene	43	5.0	"	50.0	ND	86.5	77-123	1.29	30	
Styrene	43	5.0	"	50.0	ND	86.4	76-124	0.826	30	
Bromoform	40	5.0	"	50.0	ND	79.0	67-132	11.7	30	
Isopropylbenzene (Cumene)	42	5.0	"	50.0	ND	84.9	68-134	3.33	30	
1,1,2,2-Tetrachloroethane	42	5.0	"	50.0	ND	83.9	70-124	6.69	30	
1,2,3-Trichloropropane	43	5.0	"	50.0	ND	85.5	73-125	7.48	30	
n-Propylbenzene	43	5.0	"	50.0	ND	85.4	73-125	1.47	30	
Bromobenzene	43	5.0	"	50.0	ND	85.6	78-121	3.01	30	

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Project: CJ020620-10
Project Number: 01085/ Fountain Valley Hospital
Project Manager: Michael Anselmo

Reported:
24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01111 - EPA 5030										
Matrix Spike Dup (EB01111-MSD1)	**Source: E002030-04**			Prepared & Analyzed: 11-Feb-20						
1,3,5-Trimethylbenzene	42	5.0	ug/kg	50.0	ND	83.2	73-124	2.72	30	
2-Chlorotoluene	41	5.0	"	50.0	ND	82.9	75-122	2.51	30	
4-Chlorotoluene	45	5.0	"	50.0	ND	90.1	72-124	1.67	30	
tert-Butylbenzene	40	5.0	"	50.0	ND	79.4	73-125	0.631	30	
1,2,4-Trimethylbenzene	46	5.0	"	50.0	ND	91.4	75-123	5.06	30	
sec-Butylbenzene	42	5.0	"	50.0	ND	84.5	73-126	1.08	30	
p-Isopropyltoluene	46	5.0	"	50.0	ND	92.6	73-127	3.88	30	
1,3-Dichlorobenzene	44	5.0	"	50.0	ND	88.4	77-121	6.82	30	
1,4-Dichlorobenzene	43	5.0	"	50.0	ND	86.3	75-120	7.31	30	
n-Butylbenzene	42	5.0	"	50.0	ND	84.7	70-128	2.98	30	
1,2-Dichlorobenzene	43	5.0	"	50.0	ND	87.0	78-121	8.14	30	
1,2-Dibromo-3-chloropropane	43	25	"	50.0	ND	86.4	61-132	17.0	30	
1,2,4-Trichlorobenzene	41	5.0	"	50.0	ND	81.8	67-129	9.06	30	
Hexachlorobutadiene	34	5.0	"	50.0	ND	68.4	61-135	1.50	30	
Naphthalene	42	5.0	"	50.0	ND	83.5	62-129	12.5	30	
1,2,3-Trichlorobenzene	44	5.0	"	50.0	ND	87.6	66-130	10.1	30	
Tertiary-butyl alcohol (TBA)	210	25	"	250	ND	82.6	68-133	2.35	30	
Surrogate: Dibromofluoromethane	*23.8*		*"*	*25.0*		*95.3*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*22.5*		*"*	*25.0*		*89.9*	*52-149*			
Surrogate: Toluene-d8	*24.2*		*"*	*25.0*		*96.7*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*24.2*		*"*	*25.0*		*96.7*	*65-135*			
Batch EB01209 - EPA 5030										
Blank (EB01209-BLK1)				Prepared & Analyzed: 12-Feb-20						
Dichlorodifluoromethane (F12)	ND	5.0	ug/kg							
Chloromethane	ND	5.0	"							
Vinyl chloride	ND	5.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	5.0	"							
Trichlorofluoromethane (F11)	ND	5.0	"							
1,1-Dichloroethene	ND	5.0	"							
Methylene chloride (Dichloromethane)	ND	5.0	"							

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Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01209 - EPA 5030										
Blank (EB01209-BLK1)				Prepared & Analyzed: 12-Feb-20						
Methyl tertiary-butyl ether (MTBE)	ND	5.0	ug/kg							
trans-1,2-Dichloroethene	ND	5.0	"							
Diisopropyl ether (DIPE)	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
Ethyl tert-butyl ether (ETBE)	ND	5.0	"							
2,2-Dichloropropane	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
Chloroform	ND	5.0	"							
Bromochloromethane	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
1,1-Dichloropropene	ND	5.0	"							
Carbon tetrachloride	ND	5.0	"							
1,2-Dichloroethane (EDC)	ND	5.0	"							
Tertiary-amyl methyl ether (TAME)	ND	5.0	"							
Benzene	ND	5.0	"							
Trichloroethene	ND	5.0	"							
1,2-Dichloropropane	ND	5.0	"							
Bromodichloromethane	ND	5.0	"							
Dibromomethane	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
Toluene	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
1,3-Dichloropropane	ND	5.0	"							
Tetrachloroethene	ND	5.0	"							
Dibromochloromethane	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Styrene	ND	5.0	"							
Bromoform	ND	5.0	"							

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01209 - EPA 5030										
Blank (EB01209-BLK1)				Prepared & Analyzed: 12-Feb-20						
Isopropylbenzene (Cumene)	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	5.0	"							
1,2,3-Trichloropropane	ND	5.0	"							
n-Propylbenzene	ND	5.0	"							
Bromobenzene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
2-Chlorotoluene	ND	5.0	"							
4-Chlorotoluene	ND	5.0	"							
tert-Butylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
sec-Butylbenzene	ND	5.0	"							
p-Isopropyltoluene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							
n-Butylbenzene	ND	5.0	"							
1,2-Dichlorobenzene	ND	5.0	"							
1,2-Dibromo-3-chloropropane	ND	25	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
Hexachlorobutadiene	ND	5.0	"							
Naphthalene	ND	5.0	"							
1,2,3-Trichlorobenzene	ND	5.0	"							
Tertiary-butyl alcohol (TBA)	ND	25	"							
Surrogate: Dibromofluoromethane	*24.1*		*"*	*25.0*		*96.5*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*22.3*		*"*	*25.0*		*89.0*	*52-149*			
Surrogate: Toluene-d8	*23.3*		*"*	*25.0*		*93.3*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*24.6*		*"*	*25.0*		*98.3*	*65-135*			
LCS (EB01209-BS1)				Prepared & Analyzed: 12-Feb-20						
Dichlorodifluoromethane (F12)	36	5.0	ug/kg	50.0		71.8	29-149			
Chloromethane	33	5.0	"	50.0		66.1	50-136			
Vinyl chloride	35	5.0	"	50.0		69.6	56-135			
Bromomethane	38	5.0	"	50.0		75.0	53-143			
Chloroethane	34	5.0	"	50.0		68.7	59-139			

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01209 - EPA 5030										
LCS (EB01209-BS1)				Prepared & Analyzed: 12-Feb-20						
Trichlorofluoromethane (F11)	41	5.0	ug/kg	50.0		82.7	62-140			
1,1-Dichloroethene	47	5.0	"	50.0		94.0	70-131			
Methylene chloride (Dichloromethane)	47	5.0	"	50.0		94.8	70-128			
Methyl tertiary-butyl ether (MTBE)	42	5.0	"	50.0		84.5	73-125			
trans-1,2-Dichloroethene	52	5.0	"	50.0		104	74-125			
Diisopropyl ether (DIPE)	48	5.0	"	50.0		95.1	69-127			
1,1-Dichloroethane	46	5.0	"	50.0		91.0	76-125			
Ethyl tert-butyl ether (ETBE)	45	5.0	"	50.0		89.5	72-126			
2,2-Dichloropropane	43	5.0	"	50.0		85.7	67-133			
cis-1,2-Dichloroethene	50	5.0	"	50.0		99.4	77-123			
Chloroform	46	5.0	"	50.0		92.0	78-123			
Bromochloromethane	48	5.0	"	50.0		96.2	78-125			
1,1,1-Trichloroethane	46	5.0	"	50.0		91.1	73-130			
1,1-Dichloropropene	48	5.0	"	50.0		95.2	76-125			
Carbon tetrachloride	45	5.0	"	50.0		90.8	70-135			
1,2-Dichloroethane (EDC)	43	5.0	"	50.0		85.9	73-128			
Tertiary-amyl methyl ether (TAME)	46	5.0	"	50.0		92.7	73-126			
Benzene	47	5.0	"	50.0		94.5	77-121			
Trichloroethene	53	5.0	"	50.0		106	77-123			
1,2-Dichloropropane	49	5.0	"	50.0		97.5	76-123			
Bromodichloromethane	48	5.0	"	50.0		96.0	75-127			
Dibromomethane	49	5.0	"	50.0		97.3	78-125			
cis-1,3-Dichloropropene	47	5.0	"	50.0		93.2	74-126			
Toluene	46	5.0	"	50.0		92.1	77-121			
trans-1,3-Dichloropropene	40	5.0	"	50.0		80.7	71-130			
1,1,2-Trichloroethane	47	5.0	"	50.0		93.0	78-121			
1,2-Dibromoethane (EDB)	49	5.0	"	50.0		98.7	78-122			
1,3-Dichloropropane	49	5.0	"	50.0		99.0	77-121			
Tetrachloroethene	51	5.0	"	50.0		102	73-128			
Dibromochloromethane	51	5.0	"	50.0		102	74-126			
Chlorobenzene	50	5.0	"	50.0		99.4	79-120			
Ethylbenzene	51	5.0	"	50.0		103	76-122			
1,1,1,2-Tetrachloroethane	55	5.0	"	50.0		110	78-125			
m,p-Xylene	100	10	"	100		105	77-124			

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Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

C. James & Associates, Inc.	Project: CJ020620-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01209 - EPA 5030										
LCS (EB01209-BS1)				Prepared & Analyzed: 12-Feb-20						
o-Xylene	52	5.0	ug/kg	50.0		103	77-123			
Styrene	52	5.0	"	50.0		103	76-124			
Bromoform	44	5.0	"	50.0		87.4	67-132			
Isopropylbenzene (Cumene)	48	5.0	"	50.0		96.2	68-134			
1,1,2,2-Tetrachloroethane	45	5.0	"	50.0		90.3	70-124			
1,2,3-Trichloropropane	46	5.0	"	50.0		92.0	73-125			
n-Propylbenzene	49	5.0	"	50.0		99.0	73-125			
Bromobenzene	47	5.0	"	50.0		94.3	78-121			
1,3,5-Trimethylbenzene	47	5.0	"	50.0		94.2	73-124			
2-Chlorotoluene	48	5.0	"	50.0		95.0	75-122			
4-Chlorotoluene	52	5.0	"	50.0		104	72-124			
tert-Butylbenzene	47	5.0	"	50.0		93.1	73-125			
1,2,4-Trimethylbenzene	51	5.0	"	50.0		102	75-123			
sec-Butylbenzene	50	5.0	"	50.0		99.5	73-126			
p-Isopropyltoluene	53	5.0	"	50.0		106	73-127			
1,3-Dichlorobenzene	49	5.0	"	50.0		98.4	77-121			
1,4-Dichlorobenzene	47	5.0	"	50.0		94.8	75-120			
n-Butylbenzene	49	5.0	"	50.0		97.1	70-128			
1,2-Dichlorobenzene	49	5.0	"	50.0		98.3	78-121			
1,2-Dibromo-3-chloropropane	42	25	"	50.0		83.4	61-132			
1,2,4-Trichlorobenzene	46	5.0	"	50.0		92.8	67-129			
Hexachlorobutadiene	47	5.0	"	50.0		93.5	61-135			
Naphthalene	45	5.0	"	50.0		89.6	62-129			
1,2,3-Trichlorobenzene	52	5.0	"	50.0		104	66-130			
Tertiary-butyl alcohol (TBA)	230	25	"	250		93.0	68-133			
Surrogate: Dibromofluoromethane	*24.0*		*"*	*25.0*		*95.9*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*21.9*		*"*	*25.0*		*87.7*	*52-149*			
Surrogate: Toluene-d8	*24.3*		*"*	*25.0*		*97.1*	*65-135*			
Surrogate: 4-Bromofluorobenzene	*23.1*		*"*	*25.0*		*92.5*	*65-135*			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01209 - EPA 5030										
LCS Dup (EB01209-BSD1)				Prepared & Analyzed: 12-Feb-20						
Dichlorodifluoromethane (F12)	38	5.0	ug/kg	50.0		75.1	29-149	4.51	30	
Chloromethane	39	5.0	"	50.0		79.0	50-136	17.7	30	
Vinyl chloride	36	5.0	"	50.0		72.8	56-135	4.51	30	
Bromomethane	48	5.0	"	50.0		96.9	53-143	25.5	30	
Chloroethane	35	5.0	"	50.0		70.5	59-139	2.56	30	
Trichlorofluoromethane (F11)	44	5.0	"	50.0		88.5	62-140	6.69	30	
1,1-Dichloroethene	49	5.0	"	50.0		98.8	70-131	5.02	30	
Methylene chloride (Dichloromethane)	48	5.0	"	50.0		96.0	70-128	1.22	30	
Methyl tertiary-butyl ether (MTBE)	43	5.0	"	50.0		86.4	73-125	2.28	30	
trans-1,2-Dichloroethene	51	5.0	"	50.0		103	74-125	0.853	30	
Diisopropyl ether (DIPE)	48	5.0	"	50.0		96.6	69-127	1.50	30	
1,1-Dichloroethane	47	5.0	"	50.0		94.2	76-125	3.40	30	
Ethyl tert-butyl ether (ETBE)	46	5.0	"	50.0		91.3	72-126	1.94	30	
2,2-Dichloropropane	45	5.0	"	50.0		89.8	67-133	4.58	30	
cis-1,2-Dichloroethene	50	5.0	"	50.0		100	77-123	0.782	30	
Chloroform	47	5.0	"	50.0		93.2	78-123	1.33	30	
Bromochloromethane	46	5.0	"	50.0		92.6	78-125	3.80	30	
1,1,1-Trichloroethane	46	5.0	"	50.0		91.4	73-130	0.361	30	
1,1-Dichloropropene	50	5.0	"	50.0		99.9	76-125	4.84	30	
Carbon tetrachloride	48	5.0	"	50.0		95.6	70-135	5.13	30	
1,2-Dichloroethane (EDC)	43	5.0	"	50.0		85.4	73-128	0.654	30	
Tertiary-amyl methyl ether (TAME)	46	5.0	"	50.0		92.6	73-126	0.130	30	
Benzene	49	5.0	"	50.0		97.7	77-121	3.28	30	
Trichloroethene	52	5.0	"	50.0		105	77-123	0.513	30	
1,2-Dichloropropane	48	5.0	"	50.0		95.5	76-123	2.01	30	
Bromodichloromethane	48	5.0	"	50.0		96.8	75-127	0.861	30	
Dibromomethane	48	5.0	"	50.0		96.8	78-125	0.505	30	
cis-1,3-Dichloropropene	47	5.0	"	50.0		94.5	74-126	1.40	30	
Toluene	47	5.0	"	50.0		93.2	77-121	1.20	30	
trans-1,3-Dichloropropene	41	5.0	"	50.0		82.2	71-130	1.78	30	
1,1,2-Trichloroethane	47	5.0	"	50.0		94.3	78-121	1.37	30	
1,2-Dibromoethane (EDB)	47	5.0	"	50.0		93.0	78-122	5.97	30	
1,3-Dichloropropane	47	5.0	"	50.0		93.0	77-121	6.16	30	
Tetrachloroethene	50	5.0	"	50.0		101	73-128	1.70	30	

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01209 - EPA 5030										
LCS Dup (EB01209-BSD1)				Prepared & Analyzed: 12-Feb-20						
Dibromochloromethane	48	5.0	ug/kg	50.0		97.0	74-126	4.73	30	
Chlorobenzene	47	5.0	"	50.0		94.5	79-120	5.08	30	
Ethylbenzene	50	5.0	"	50.0		101	76-122	2.12	30	
1,1,1,2-Tetrachloroethane	50	5.0	"	50.0		101	78-125	8.19	30	
m,p-Xylene	98	10	"	100		98.4	77-124	6.13	30	
o-Xylene	49	5.0	"	50.0		97.1	77-123	6.08	30	
Styrene	49	5.0	"	50.0		97.5	76-124	5.70	30	
Bromoform	41	5.0	"	50.0		82.6	67-132	5.59	30	
Isopropylbenzene (Cumene)	45	5.0	"	50.0		90.7	68-134	5.80	30	
1,1,2,2-Tetrachloroethane	44	5.0	"	50.0		87.2	70-124	3.40	30	
1,2,3-Trichloropropane	43	5.0	"	50.0		86.2	73-125	6.51	30	
n-Propylbenzene	46	5.0	"	50.0		92.3	73-125	6.92	30	
Bromobenzene	47	5.0	"	50.0		94.0	78-121	0.287	30	
1,3,5-Trimethylbenzene	44	5.0	"	50.0		88.2	73-124	6.49	30	
2-Chlorotoluene	44	5.0	"	50.0		88.8	75-122	6.78	30	
4-Chlorotoluene	48	5.0	"	50.0		96.7	72-124	7.58	30	
tert-Butylbenzene	44	5.0	"	50.0		87.2	73-125	6.53	30	
1,2,4-Trimethylbenzene	49	5.0	"	50.0		98.4	75-123	3.09	30	
sec-Butylbenzene	48	5.0	"	50.0		95.2	73-126	4.37	30	
p-Isopropyltoluene	52	5.0	"	50.0		103	73-127	2.54	30	
1,3-Dichlorobenzene	47	5.0	"	50.0		93.6	77-121	5.09	30	
1,4-Dichlorobenzene	47	5.0	"	50.0		93.6	75-120	1.38	30	
n-Butylbenzene	48	5.0	"	50.0		95.1	70-128	2.09	30	
1,2-Dichlorobenzene	46	5.0	"	50.0		91.8	78-121	6.84	30	
1,2-Dibromo-3-chloropropane	41	25	"	50.0		81.1	61-132	2.86	30	
1,2,4-Trichlorobenzene	45	5.0	"	50.0		89.2	67-129	3.90	30	
Hexachlorobutadiene	46	5.0	"	50.0		91.2	61-135	2.50	30	
Naphthalene	45	5.0	"	50.0		89.0	62-129	0.672	30	
1,2,3-Trichlorobenzene	50	5.0	"	50.0		99.9	66-130	3.91	30	
Tertiary-butyl alcohol (TBA)	210	25	"	250		83.3	68-133	10.9	30	
Surrogate: Dibromofluoromethane	*23.4*		*"*	*25.0*		*93.8*	*65-135*			
Surrogate: 1,2-Dichloroethane-d4	*21.8*		*"*	*25.0*		*87.4*	*52-149*			
Surrogate: Toluene-d8	*24.0*		*"*	*25.0*		*95.8*	*65-135*			

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Volatile Organic Compounds by EPA Method 5030/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01209 - EPA 5030										
LCS Dup (EB01209-BSD1)				Prepared & Analyzed: 12-Feb-20						
Surrogate: 4-Bromofluorobenzene	*24.6*		*ug/kg*	*25.0*		*98.4*	*65-135*			

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Petroleum Hydrocarbon Analysis - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01307 - GC										
Blank (EB01307-BLK1)				Prepared & Analyzed: 13-Feb-20						
Gasoline (C5-C12)	ND	10	mg/kg							
Diesel (C12-C22)	ND	10	"							
Matrix Spike (EB01307-MS1)		Source: E002052-01		Prepared & Analyzed: 13-Feb-20						
Gasoline (C5-C12)	457	10	mg/kg	500	ND	91.3	67-125			
Diesel (C12-C22)	389	10	"	500	ND	77.8	67-125			
Matrix Spike Dup (EB01307-MSD1)		Source: E002052-01		Prepared & Analyzed: 13-Feb-20						
Diesel (C12-C22)	514	10	mg/kg	500	ND	103	67-125	27.7	30	
Gasoline (C5-C12)	557	10	"	500	ND	111	67-125	19.7	30	
Batch EB01408 - GC										
Blank (EB01408-BLK1)				Prepared & Analyzed: 12-Feb-20						
Gasoline (C5-C12)	ND	10	mg/kg							
Diesel (C12-C22)	ND	10	"							
Matrix Spike (EB01408-MS1)		Source: E002030-01		Prepared & Analyzed: 12-Feb-20						
Diesel (C12-C22)	530	10	mg/kg	500	ND	106	67-125			
Gasoline (C5-C12)	560	10	"	500	ND	112	67-125			
Matrix Spike Dup (EB01408-MSD1)		Source: E002030-01		Prepared & Analyzed: 12-Feb-20						
Gasoline (C5-C12)	555	10	mg/kg	500	ND	111	67-125	0.897	30	
Diesel (C12-C22)	531	10	"	500	ND	106	67-125	0.189	30	
Batch EB01409 - GC										
Blank (EB01409-BLK1)				Prepared & Analyzed: 14-Feb-20						
Diesel (C12-C22)	ND	10	mg/kg							
Gasoline (C5-C12)	ND	10	"							

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Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 09:55

Petroleum Hydrocarbon Analysis - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01409 - GC										
Matrix Spike (EB01409-MS1)	**Source: E002030-17**			Prepared & Analyzed: 14-Feb-20						
Diesel (C12-C22)	464	10	mg/kg	500	ND	92.9	67-125			
Gasoline (C5-C12)	510	10	"	500	ND	102	67-125			
Matrix Spike Dup (EB01409-MSD1)	**Source: E002030-17**			Prepared & Analyzed: 14-Feb-20						
Gasoline (C5-C12)	441	10	mg/kg	500	ND	88.1	67-125	14.5	30	
Diesel (C12-C22)	393	10	"	500	ND	78.6	67-125	16.6	30	

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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
D-12	Results in the gasoline range are primarily due to overlap from a diesel range product.
LCC	Leak Check Compound
ND	Analyte NOT DETECTED at or above the reporting limit
MDL	Method Detection Limit
%REC	Percent Recovery
RPD	Relative Percent Difference

All soil results are reported in wet weight.

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs through PJLA, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743 & 2745.

H&P is approved by the State of Louisiana Department of Environmental Quality under the National Environmental Laboratory Accreditation Conference (NELAC) certification number 04138

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

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SOIL / WATER Chain of Custody

DATE: _____
Page 1 of 3

Lab Client and Project Information

Lab Client/Consultant: C. JAMES & ASSOCIATES, INC	Project Name / #: 01085
Lab Client Project Manager: M. ANSELMO	Project Location: FOUNTAIN VALLEY REGIONAL HOSPITAL
Lab Client Address: P.O. BOX 4832	Report E-Mail(s): CJamesinc@reagan.com SGreen@CatalystEnviro.com
Lab Client City, State, Zip: OCEANSIDE, CA 92052	
Phone Number: (760) 722-0050	

Sample Receipt (Lab Use Only)

Date Rec'd: 2/6/20	Control #: 200120.04
H&P Project #: CJ020620-10	
Lab Work Order #: E052030	
Sample Intact: ☒ Yes ☐ No ☐ See Notes Below	
Custody Seal Intact: ☐ Yes ☐ No	Temp: 2.6°C
Outside Lab:	
Receipt Notes/Tracking #:	
Lab PM Initials: MB	

Reporting Requirements	Turnaround Time	Sampler Information
☒ Standard Report ☐ Level III ☐ Level IV	☑ 5-7 day Stnd ☐ 24-Hr Rush	Sampler(s): SCOTT GREEN
☐ Excel EDD ☐ Other EDD: _____	☐ 3-day Rush ☐ Mobile Lab	Signature:
☒ CA Geotracker Global ID: _____	☐ 48-Hr Rush ☐ Other: _____	Date: 2/5/2020

Additional Instructions to Laboratory:

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	MATRIX: SOIL or WATER	CONTAINER SIZE & TYPE	# OF CONTAINERS	Preservative	8260B VOCs Standard Full List (Note: Oxygenates not included)	8260B ☒ Oxygenates ☐ MTBE only	8260B VOCs Short List ☐ BTEX ☐ Naphthalene	8260B VOC Short List, Other* *Indicate in additional instructions	LUFT GC/MS TPH Gas only	LUFT TPH ☒ Gas ☒ Diesel ☐ Extended							
P6-2.5'	P6	02/05/20	09:13	SOIL	3" METAL TUBE	1	Ø	X	X				X							
P6-5'	↓		09:30					X	X				X							
P6-10'	↓		09:35					X	X				X							
P5-2.5	P5		10:15					X	X				X							
P5-5'	"		10:20					X	X				X							
P4-2.5'	P4		10:55					X	X				X							
P4-5'	"		11:00		↓			X	X				X							
P3-2.5'	P3		11:38		ACETATE			X	X				X							
P3-5'	"		11:42		METAL TUBE			X	X				X							
P2-2.5'	"	↓	12:00	↓	↓	↓	↓	X	X				X							

	Company:	Date:	Time:		Company:	Date:	Time:
Approved/Relinquished by:	CJA	2/5/20	15:10	Received by:	H&P	2/5/20	1510
Approved/Relinquished by:				Received by:			
Approved/Relinquished by:				Received by:			

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

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SOIL / WATER Chain of Custody

DATE:
Page 2 of 3

Lab Client and Project Information

Lab Client/Consultant: C. JAMES & ASSOCIATES, INC.	Project Name / #: 01085
Lab Client Project Manager: M. ANSELMO	Project Location: FOUNTAIN VALLEY REGIONAL HOSP.
Lab Client Address: P.O. BOX 4832	Report E-Mail(s):
Lab Client City, State, Zip: OCEANSIDE, CA 92052	
Phone Number: (760) 722-0050	

Reporting Requirements
- [x] Standard Report [ ] Level III [ ] Level IV
- [ ] Excel EDD [ ] Other EDD:
- [ ] CA Geotracker Global ID:

Turnaround Time
- [x] 5-7 day Stnd [ ] 24-Hr Rush
- [ ] 3-day Rush [ ] Mobile Lab
- [ ] 48-Hr Rush [ ] Other:

Sampler Information
Sampler(s): SCOTT GREEN
Signature:
Date: 2/5/2020

Sample Receipt (Lab Use Only)

Date Rec'd: 2/6/20	Control #: 200120.04
H&P Project # CJ020620-10	
Lab Work Order # EO02030	
Sample Intact: [x] Yes [ ] No [ ] See Notes Below	
Custody Seal Intact: [ ] Yes [ ] No	Temp: 2.6°C
Outside Lab:	
Receipt Notes/Tracking #:	
Lab PM Initials: KB	

Additional Instructions to Laboratory:

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	MATRIX: SOIL or WATER	CONTAINER SIZE & TYPE	# OF CONTAINERS	Preservative	8260B VOCs Standard Full List (Note: Oxygenates not included)	8260B [x] Oxygenates [ ] MTBE only	8260B VOCs Short List [ ] BTEX [ ] Naphthalene	8260B VOC Short List, Other* *Indicate in additional instructions	LUFT GC/MS TPH Gas only	LUFT TPH [x] Gas [x] Diesel [ ] Extended
P2-5'	P2	02/05/20	12:02	SOIL	METAL TUBE	1	Ø	X	X				X
P2-10'	"		12:10		"			X	X				X
P1-2.5'	P1		13:15		ACETATE			X	X				X
P1-5'	↓		13:18		METAL TUBE			X	X				X
P1-10'			13:22		"			X	X				X
P7-2.5'	P7		13:45		ACETATE			X	X				X
P7.5'	"		13:50		METAL TUBE			X	X				X
P7-10'	"		13:55		"			X	X				X
P8-2.5'	P8		14:25		ACETATE			X	X				X
P8-5'	"		14:31		METAL TUBE			X	X				X

	Company:	Date:	Time:		Company:	Date:	Time:
Approved/Relinquished by:	CJA	2/5/20	15:10	Received by:	H&P	2-5-20	1510
Approved/Relinquished by:				Received by:			
Approved/Relinquished by:				Received by:			

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

Mobile Geochemistry, Inc.
2470 Impala Drive, Carlsbad, CA 92010
& Field Office - Signal Hill, CA
W handpmg.com E info@handpmg.com
P 760.804.9678 F 760.804.9159

SOIL / WATER Chain of Custody

DATE:

Lab Client and Project Information

Lab Client/Consultant: C. JAMES & ASSOCIATES, INC	Project Name / #: 01085
Lab Client Project Manager: M. ANSELMO	Project Location: FOUNTAIN VALLEY REGIONAL HOSP.
Lab Client Address: P.O. Box 232685	Report E-Mail(s):
Lab Client City, State, Zip: OCEANSIDE, CA 92052	
Phone Number: (760) 822-1735	

Sample Receipt (Lab Use Only)

Date Rec'd: 2/6/20	Control #: 200120.04
H&P Project # CJ020620-10	
Lab Work Order # EOO2030	
Sample Intact: ☒ Yes ☐ No ☐ See Notes Below	
Custody Seal Intact: ☐ Yes ☐ No	Temp: 2.6°C
Outside Lab:	
Receipt Notes/Tracking #:	
Lab PM Initials: KB	

Reporting Requirements

☒ Standard Report ☐ Level III ☐ Level IV
☐ Excel EDD ☐ Other EDD:_____
☒ CA Geotracker Global ID:_____

Turnaround Time

☒ 5-7 day Stnd ☐ 24-Hr Rush
☐ 3-day Rush ☐ Mobile Lab
☐ 48-Hr Rush ☐ Other:____

Sampler Information

Sampler(s): SCOTT GREEN
Signature:
Date: 2/5/2020

Additional Instructions to Laboratory:

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	MATRIX: SOIL or WATER	CONTAINER SIZE & TYPE	# OF CONTAINERS	Preservative	8260B VOCs Standard Full List (Note: Oxygenates not included)	8260B ☒ Oxygenates ☐ MTBE only	8260B VOCs Short List ☐ BTEX ☐ Naphthalene	8260B VOC Short List, Other* *Indicate in additional instructions	LUFT GC/MS TPH Gas only	LUFT TPH ☒ Gas ☒ Diesel ☐ Extended							
P8-8'	P8	02/05/20	15:00	SOIL	VOA VIAL GLASS JAR	1	☒	X	X				X							

Approved/Relinquished by:	Company: CJA	Date: 2/5/20	Time: 15:10	Received by:	Company: H&P	Date: 2-5-20	Time: 1510
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

Mobile
Geochemistry Inc.

24 February 2020

Michael Anselmo
C. James & Associates, Inc.
PO Box 4832
Oceanside, CA 92052-4832

H&P Project: CJ021020-10
Client Project: 01085/ Fountain Valley Hospital

Dear Michael Anselmo:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 07-Feb-20 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody
- Sampling Logs (if applicable)

Unless otherwise noted, I certify that all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis La Roux
Laboratory Director

H&P Mobile Geochemistry, Inc. is certified under the California ELAP and the National Environmental Laboratory Accreditation Conference (NELAC). H&P is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P5-5	E002042-01	Vapor	07-Feb-20	07-Feb-20
P4-5	E002042-02	Vapor	07-Feb-20	07-Feb-20
P4-5 Rep	E002042-03	Vapor	07-Feb-20	07-Feb-20
P3-5	E002042-04	Vapor	07-Feb-20	07-Feb-20
P2-5	E002042-05	Vapor	07-Feb-20	07-Feb-20
P1-5	E002042-06	Vapor	07-Feb-20	07-Feb-20

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

DETECTIONS SUMMARY

Sample ID: **P5-5** Laboratory ID: **E002042-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**4.9**	0.20	%	ASTM D1945	
Ethylbenzene	**0.15**	0.10	ug/l	H&P 8260SV	
m,p-Xylene	**0.10**	0.10	ug/l	H&P 8260SV	

Sample ID: **P4-5** Laboratory ID: **E002042-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**6.3**	0.20	%	ASTM D1945	
Ethylbenzene	**0.11**	0.10	ug/l	H&P 8260SV	
1,2,4-Trimethylbenzene	**0.16**	0.10	ug/l	H&P 8260SV	

Sample ID: **P4-5 Rep** Laboratory ID: **E002042-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**6.1**	0.20	%	ASTM D1945	
1,2,4-Trimethylbenzene	**0.12**	0.10	ug/l	H&P 8260SV	

Sample ID: **P3-5** Laboratory ID: **E002042-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**6.5**	0.20	%	ASTM D1945	
1,2,4-Trimethylbenzene	**0.12**	0.10	ug/l	H&P 8260SV	

Sample ID: **P2-5** Laboratory ID: **E002042-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**12**	0.20	%	ASTM D1945	

Sample ID: **P1-5** Laboratory ID: **E002042-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**13**	0.20	%	ASTM D1945	

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Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Soil Vapor/Air Analysis by ASTM D1945

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P5-5 (E002042-01) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Oxygen	**4.9**	0.20	%	1	EB01106	10-Feb-20	10-Feb-20	ASTM D1945	
P4-5 (E002042-02) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Oxygen	**6.3**	0.20	%	1	EB01106	10-Feb-20	10-Feb-20	ASTM D1945	
P4-5 Rep (E002042-03) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Oxygen	**6.1**	0.20	%	1	EB01106	10-Feb-20	10-Feb-20	ASTM D1945	
P3-5 (E002042-04) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Oxygen	**6.5**	0.20	%	1	EB01106	10-Feb-20	10-Feb-20	ASTM D1945	
P2-5 (E002042-05) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Oxygen	**12**	0.20	%	1	EB01106	10-Feb-20	10-Feb-20	ASTM D1945	
P1-5 (E002042-06) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Oxygen	**13**	0.20	%	1	EB01106	10-Feb-20	10-Feb-20	ASTM D1945	

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Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P5-5 (E002042-01) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Chloromethane	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Dibromomethane	ND	0.10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.10	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Dibromochloromethane	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.02	"	"	"	"	"	"	

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P5-5 (E002042-01) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Ethylbenzene	**0.15**	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.10**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Styrene	ND	0.10	"	"	"	"	"	"	
Bromoform	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*95.4 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*83.4 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*95.0 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.8 %*		*75-125*	"	"	"	"	

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Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P4-5 (E002042-02) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Chloromethane	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Dibromomethane	ND	0.10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.10	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Dibromochloromethane	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.02	"	"	"	"	"	"	

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Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P4-5 (E002042-02) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Ethylbenzene	**0.11**	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Styrene	ND	0.10	"	"	"	"	"	"	
Bromoform	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.16**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*90.4 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*85.4 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*92.4 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.7 %*		*75-125*	"	"	"	"	

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P4-5 Rep (E002042-03) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Chloromethane	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Dibromomethane	ND	0.10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.10	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Dibromochloromethane	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.02	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P4-5 Rep (E002042-03) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Ethylbenzene	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Styrene	ND	0.10	"	"	"	"	"	"	
Bromoform	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.12**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*91.7 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*87.1 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*93.9 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*		*75-125*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P3-5 (E002042-04) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Chloromethane	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Dibromomethane	ND	0.10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.10	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Dibromochloromethane	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.02	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P3-5 (E002042-04) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Ethylbenzene	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Styrene	ND	0.10	"	"	"	"	"	"	
Bromoform	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.12**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.2 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*82.4 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*95.1 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.8 %*		*75-125*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P2-5 (E002042-05) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Chloromethane	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Dibromomethane	ND	0.10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.10	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Dibromochloromethane	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.02	"	"	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P2-5 (E002042-05) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Ethylbenzene	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Styrene	ND	0.10	"	"	"	"	"	"	
Bromoform	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*87.9 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*81.0 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*96.8 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.2 %*		*75-125*	"	"	"	"	

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-5 (E002042-06) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Chloromethane	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Dibromomethane	ND	0.10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.10	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Dibromochloromethane	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.02	"	"	"	"	"	"	

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Geochemistry Inc.

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P1-5 (E002042-06) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
Ethylbenzene	ND	0.10	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Styrene	ND	0.10	"	"	"	"	"	"	
Bromoform	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.0 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*93.2 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*98.1 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.2 %*		*75-125*	"	"	"	"	

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Petroleum Hydrocarbon Analysis by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
P5-5 (E002042-01) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
TPHv (C5 - C12)	ND	40	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
P4-5 (E002042-02) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
TPHv (C5 - C12)	ND	40	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
P4-5 Rep (E002042-03) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
TPHv (C5 - C12)	ND	40	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
P3-5 (E002042-04) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
TPHv (C5 - C12)	ND	40	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
P2-5 (E002042-05) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
TPHv (C5 - C12)	ND	40	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	
P1-5 (E002042-06) Vapor Sampled: 07-Feb-20 Received: 07-Feb-20									
TPHv (C5 - C12)	ND	40	ug/l	0.01	EB01309	13-Feb-20	13-Feb-20	H&P 8260SV	

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01309 - EPA 5030										
Blank (EB01309-BLK1)				Prepared & Analyzed: 13-Feb-20						
1,1-Difluoroethane (LCC)	ND	0.10	ug/l							
Dichlorodifluoromethane (F12)	ND	0.10	"							
Chloromethane	ND	0.10	"							
Vinyl chloride	ND	0.01	"							
Bromomethane	ND	0.10	"							
Chloroethane	ND	0.10	"							
Trichlorofluoromethane (F11)	ND	0.10	"							
1,1-Dichloroethene	ND	0.10	"							
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"							
Methylene chloride (Dichloromethane)	ND	0.10	"							
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"							
trans-1,2-Dichloroethene	ND	0.10	"							
Diisopropyl ether (DIPE)	ND	1.0	"							
1,1-Dichloroethane	ND	0.10	"							
Ethyl tert-butyl ether (ETBE)	ND	1.0	"							
2,2-Dichloropropane	ND	0.10	"							
cis-1,2-Dichloroethene	ND	0.10	"							
Chloroform	ND	0.02	"							
Bromochloromethane	ND	0.10	"							
1,1,1-Trichloroethane	ND	0.10	"							
1,1-Dichloropropene	ND	0.10	"							
Carbon tetrachloride	ND	0.02	"							
1,2-Dichloroethane (EDC)	ND	0.02	"							
Tertiary-amyl methyl ether (TAME)	ND	1.0	"							
Benzene	ND	0.02	"							
Trichloroethene	ND	0.02	"							
1,2-Dichloropropane	ND	0.10	"							
Bromodichloromethane	ND	0.10	"							
Dibromomethane	ND	0.10	"							
cis-1,3-Dichloropropene	ND	0.10	"							
Toluene	ND	0.20	"							
trans-1,3-Dichloropropene	ND	0.10	"							
1,1,2-Trichloroethane	ND	0.10	"							
1,2-Dibromoethane (EDB)	ND	0.10	"							

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01309 - EPA 5030										
Blank (EB01309-BLK1)				Prepared & Analyzed: 13-Feb-20						
1,3-Dichloropropane	ND	0.10	ug/l							
Tetrachloroethene	ND	0.02	"							
Dibromochloromethane	ND	0.10	"							
Chlorobenzene	ND	0.02	"							
Ethylbenzene	ND	0.10	"							
1,1,1,2-Tetrachloroethane	ND	0.10	"							
m,p-Xylene	ND	0.10	"							
o-Xylene	ND	0.10	"							
Styrene	ND	0.10	"							
Bromoform	ND	0.10	"							
Isopropylbenzene (Cumene)	ND	0.10	"							
1,1,2,2-Tetrachloroethane	ND	0.10	"							
1,2,3-Trichloropropane	ND	0.10	"							
n-Propylbenzene	ND	0.10	"							
Bromobenzene	ND	0.10	"							
1,3,5-Trimethylbenzene	ND	0.10	"							
2-Chlorotoluene	ND	0.10	"							
4-Chlorotoluene	ND	0.10	"							
tert-Butylbenzene	ND	0.10	"							
1,2,4-Trimethylbenzene	ND	0.10	"							
sec-Butylbenzene	ND	0.10	"							
p-Isopropyltoluene	ND	0.10	"							
1,3-Dichlorobenzene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
n-Butylbenzene	ND	0.10	"							
1,2-Dichlorobenzene	ND	0.10	"							
1,2-Dibromo-3-chloropropane	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	0.10	"							
Hexachlorobutadiene	ND	0.10	"							
Naphthalene	ND	0.02	"							
1,2,3-Trichlorobenzene	ND	0.10	"							
Tertiary-butyl alcohol (TBA)	ND	5.0	"							
Surrogate: Dibromofluoromethane	*0.473*		*"*	*0.500*		*94.7*	*75-125*			

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01309 - EPA 5030										
Blank (EB01309-BLK1)				Prepared & Analyzed: 13-Feb-20						
Surrogate: 1,2-Dichloroethane-d4	*0.425*		*ug/l*	*0.500*		*85.0*	*75-125*			
Surrogate: Toluene-d8	*0.461*		*"*	*0.500*		*92.2*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.475*		*"*	*0.500*		*94.9*	*75-125*			
LCS (EB01309-BS1)				Prepared & Analyzed: 13-Feb-20						
Dichlorodifluoromethane (F12)	4.2	0.50	ug/l	5.00		83.7	70-130			
Vinyl chloride	3.9	0.05	"	5.00		77.8	70-130			
Chloroethane	4.1	0.50	"	5.00		82.8	70-130			
Trichlorofluoromethane (F11)	4.7	0.50	"	5.00		94.6	70-130			
1,1-Dichloroethene	5.1	0.50	"	5.00		103	70-130			
1,1,2 Trichlorotrifluoroethane (F113)	5.8	0.50	"	5.00		116	70-130			
Methylene chloride (Dichloromethane)	4.8	0.50	"	5.00		96.8	70-130			
trans-1,2-Dichloroethene	5.5	0.50	"	5.00		110	70-130			
1,1-Dichloroethane	5.2	0.50	"	5.00		103	70-130			
cis-1,2-Dichloroethene	5.3	0.50	"	5.00		105	70-130			
Chloroform	4.8	0.10	"	5.00		96.9	70-130			
1,1,1-Trichloroethane	5.0	0.50	"	5.00		99.2	70-130			
Carbon tetrachloride	5.1	0.10	"	5.00		102	70-130			
1,2-Dichloroethane (EDC)	4.3	0.10	"	5.00		86.7	70-130			
Benzene	5.1	0.10	"	5.00		102	70-130			
Trichloroethene	5.5	0.10	"	5.00		110	70-130			
Toluene	4.9	1.0	"	5.00		98.5	70-130			
1,1,2-Trichloroethane	4.6	0.50	"	5.00		91.3	70-130			
Tetrachloroethene	5.7	0.10	"	5.00		114	70-130			
Ethylbenzene	5.6	0.50	"	5.00		112	70-130			
1,1,1,2-Tetrachloroethane	5.6	0.50	"	5.00		112	70-130			
m,p-Xylene	11	0.50	"	10.0		114	70-130			
o-Xylene	5.5	0.50	"	5.00		110	70-130			
1,1,2,2-Tetrachloroethane	4.4	0.50	"	5.00		88.0	70-130			
Surrogate: Dibromofluoromethane	*2.40*		*"*	*2.50*		*95.9*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2.12*		*"*	*2.50*		*84.7*	*75-125*			
Surrogate: Toluene-d8	*2.42*		*"*	*2.50*		*96.6*	*75-125*			

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PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01309 - EPA 5030										
LCS (EB01309-BS1)				Prepared & Analyzed: 13-Feb-20						
Surrogate: 4-Bromofluorobenzene	*2.36*		*ug/l*	*2.50*		*94.3*	*75-125*			

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Petroleum Hydrocarbon Analysis by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB01309 - EPA 5030										
Blank (EB01309-BLK1)				Prepared & Analyzed: 13-Feb-20						
TPHv (C5 - C12)	ND	40	ug/l							

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C. James & Associates, Inc.	Project: CJ021020-10	
PO Box 4832	Project Number: 01085/ Fountain Valley Hospital	Reported:
Oceanside, CA 92052-4832	Project Manager: Michael Anselmo	24-Feb-20 13:54

Notes and Definitions

LCC	Leak Check Compound
ND	Analyte NOT DETECTED at or above the reporting limit
MDL	Method Detection Limit
%REC	Percent Recovery
RPD	Relative Percent Difference

All soil results are reported in wet weight.

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs through PJLA, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743 & 2745.

H&P is approved by the State of Louisiana Department of Environmental Quality under the National Environmental Laboratory Accreditation Conference (NELAC) certification number 04138

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

H&P Mobile Geochemistry, Inc.

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VAPOR / AIR Chain of Custody

DATE: 02/07/20
Page 1 of 1

Lab Client and Project Information

Lab Client/Consultant: C. James + Associates Inc	Project Name / #: PIH Valley Hospital / 01085
Lab Client Project Manager: Michael Anselmo	Project Location: 17150 Euclid
Lab Client Address: PO Box 4832	Report E-Mail(s): cjamesinc@reagan.com
Lab Client City, State, Zip: Oceanside, CA 92052	
Phone Number: 760 722 0058	

Reporting Requirements
- [x] Standard Report [ ] Level III [ ] Level IV
- [ ] Excel EDD [ ] Other EDD:
- [ ] CA Geotracker Global ID:

Turnaround Time
- [x] 5-7 day Stnd [ ] 24-Hr Rush
- [ ] 3-day Rush [ ] Mobile Lab
- [ ] 48-Hr Rush [ ] Other:

Sampler Information
Sampler(s): C. Schindler
Signature:
Date: 2/7/2020

Sample Receipt (Lab Use Only)

Date Rec'd: 2/10/20	Control #: 200120-05
H&P Project # CJD21020-1D	
Lab Work Order # E002042	
Sample Intact: [x] Yes [ ] No [ ] See Notes Below	
Receipt Gauge ID: 30005	Temp: RT
Outside Lab:	
Receipt Notes/Tracking #:	Lab PM Initials: KB

Additional Instructions to Laboratory:

* Preferred VOC units (please choose one):
[x] µg/L [ ] µg/m³ [ ] ppbv [ ] ppmv

ULRLs – KB 2/10

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa, Tedlar, Tube, etc.	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standard Full List 8260SV / TO-15	VOCs Short List / Project List 8260SV / TO-15	Oxygenates 8260SV / TO-15	Naphthalene 8260SV / TO-15 (KB 2/10)	TPHv as Gas 8260SVm / TO-15m	Aromatic/Aliphatic Fractions 8260SVm / TO-15m	Leak Check Compound DFA / IPA / He	Methane by EPA 8015m	Fixed Gases by ASTM D1945 CO2 / O2 / N2 (KB 2/10)				
P5-5		2/7/20	1135	SV	1L Summa	420	-1.04	X		X	X	X		X		2				
P4-5			1223			194	-.19	X		X	X	X		X		2				
P4-5 Rep			1229			361	-.25	X		X	X	X		X		2				
P3-5			1310			196	-.59	X		X	X	X		X		2				
P2-5			1352			079	-.96	X		X	X	X		X		2				
P1-5			1415			179 ~~170~~ (KB 2/10/20)	+.04	X		X	X	X		X		0				

Approved/Relinquished by:	Company: C. James	Date: 02/07/20	Time:	Received by:	Company: H&P	Date: 2/7/20	Time: 15:00
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

H&P Mobile Geochemistry Inc.

FMS005
Revision: 3
Revised: 1/15/16
Effective: 1/25/16
Page 1 of 1

Log Sheet: Soil Vapor Sampling with Summa

H&P Project #: CJ0207 20-TECH
Site Address: 17100 Ellerd St, Fountain Valley
Consultant: C. Jones
Consultant Rep(s): Mike
Date: 2/7/2020
Page: 1 of 1
H&P Rep(s): K. Schindler
Reviewed: EC
Scanned: T Torres

Equipment Info
Inline Gauge ID#: —
Pump ID#: 035

Purge Volume Information
PV Amount: 3pv
PV Includes: ☒ Tubing ☒ Sand 40% ☒ Dry Bent 50%

Leak Check Compound
A cloth saturated with LCC is placed around tubing connections and probe seal. This is done for all samples unless otherwise noted.
☑ 1,1-DFA
☐ 1,1,1,2-TFA
☐ IPA
☐ Other:

	Sample and Summa Information							Probe Specs							Purge & Collection Information						
	Point ID	Summa ID #	Sample Kit ID #	Start Time	Initial Vac (" Hg)	End / Sample Time	End Vac (" Hg)	Probe Depth (ft)	Tubing Length (ft)	Tubing OD (in.)	Sand Ht (in.)	Sand Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Shut In Test 60 sec (✓)	Leak Check (✓)	Purge Vol (mL)	Purge Flow Rate (mL/min)	Pump Time (min:sec)	Sample Flow Rate (mL/min)	ProbeVac ☐ Hg ☒ H_2O
1	P5-5	420	002	1126	-30	1135	0	5	6	1/4	12	1.5	6	1.5	✓	✓	765	200	3:49	200	-10
2	P4-5	194	068	1216	-30+	1223	0	5	6	1/4	12	1.5	6	1.5	✓	✓	765	200	3:49	200	-5
3	P4-5 Dup	361	068	1227	-30+	1229	0	5	6	1/4	12	1.5	6	1.5	✓	✓	1765	200	—	200	-5
4	P3-5	196	119	1304	-25.5	1310	0	5	6	1/4	12	1.5	6	1.5	✓	✓	765	200	3:49	200	-5
5	P2-5	079	019	1344	-27.0	1352	0	5	6	1/4	12	1.5	6	1.5	✓	✓	765	200	3:49	200	0
6	P1-5	170	224	1409	-27.0	1415	0	5	6	1/4	12	1.5	12	1.5	✓	✓	1025	200	5:08	200	0
7																					
8																					
9																					
10																					
11																					
12																					

1405 G0151187

Site Notes such as weather, visitors, scope deviations, health & safety issues, etc. (When making sample specific notes, reference the line number above):

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3/3/2020
Mr. Michael Anselmo
C. James & Associates, Inc.
PO Box 4832

Oceanside CA 92052

Project Name: FTN Valley Hospital
Project #: 01085
Workorder #: 2002229R1

Dear Mr. Michael Anselmo

The following report includes the data for the above referenced project for sample(s) received on 2/11/2020 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 VI are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Sarah Westerman at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Sarah Westerman

Project Manager

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WORK ORDER #: 2002229R1

Work Order Summary

CLIENT:	Mr. Michael Anselmo C. James & Associates, Inc. PO Box 4832 Oceanside, CA 92052	**BILL TO:**	Ms. Kristin Beckley H&P Mobile Geochemistry 2470 Impala Dr. Carlsbad, CA 92010
PHONE:	760-822-1735	**P.O. #**	01085
FAX:		**PROJECT #**	01085 FTN Valley Hospital
DATE RECEIVED:	02/11/2020	**CONTACT:**	Sarah Westerman
DATE COMPLETED:	02/19/2020		
DATE REISSUED:	03/03/2020		

FRACTION #	NAME	TEST
01A	P5-5	Modified TO-17 VI
02A	P4-5	Modified TO-17 VI
03A	P4-5 Rep	Modified TO-17 VI
04A	P3-5	Modified TO-17 VI
05A	P2-5	Modified TO-17 VI
06A	P1-5	Modified TO-17 VI
07A	Lab Blank	Modified TO-17 VI
07B	Lab Blank	Modified TO-17 VI
08A	CCV	Modified TO-17 VI
08B	CCV	Modified TO-17 VI
09A	LCS	Modified TO-17 VI
09AA	LCSD	Modified TO-17 VI
09B	LCS	Modified TO-17 VI
09BB	LCSD	Modified TO-17 VI

CERTIFIED BY: Heidi Hayes DATE: 03/03/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
Modified EPA Method TO-17 (VI Tubes)
C. James & Associates, Inc.
Workorder# 2002229R1

Six TO-17 VI Tube samples were received on February 11, 2020. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 'VI' sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for compound separation and detection.

At the client's request, a modification may be applied to EPA Method TO-17 to transport sorbent tubes above the 4 deg C temperature threshold. Laboratory studies demonstrate a high level of stability for VOCs on the TO-17 'VI' tube at room temperature for periods of up to 14 days. Tubes can be shipped to and from the field site at ambient conditions as long as the 14-day sample hold time is upheld. Trip blanks and field surrogate spikes are used as additional control measures to monitor recovery and background contribution during tube transport.

Since the TO-17 VI application significantly extends the scope of target compounds addressed in TO-17, the laboratory has implemented a method modification outlined in the table below. Specific project requirements may over-ride the laboratory modification.

Requirement	*TO-17*	*ATL Modifications*
Distributed Volume Pairs	Collection of distributed volume pairs required for monitoring ambient air to insure high quality.	If site is well-characterized or performance previously verified, single tube sampling may be appropriate. Distributed pairs may be impractical for soil gas collection due to configuration and volume constraints.

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A signature, date, and time were not provided by the sample carrier.

The work order was reissued on 3/3/20 to correct the identification of the report to client per the Chain of Custody (COC).

Analytical Notes

A sampling volume of 0.1 L was used to convert ng to ug/m3 for the associated Lab Blanks.

The reported CCV and LCS for each daily batch may be derived from more than one analytical file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in blank (subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: P5-5

Lab ID#: 2002229R1-01A

No Detections Were Found.

Client Sample ID: P4-5

Lab ID#: 2002229R1-02A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range C10-C22)	1000	10000	1100	11000

Client Sample ID: P4-5 Rep

Lab ID#: 2002229R1-03A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range C10-C22)	1000	10000	1500	15000

Client Sample ID: P3-5

Lab ID#: 2002229R1-04A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range C10-C22)	1000	10000	1200	12000

Client Sample ID: P2-5

Lab ID#: 2002229R1-05A

No Detections Were Found.

Client Sample ID: P1-5

Lab ID#: 2002229R1-06A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	1.0	10

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Client Sample ID: P5-5

Lab ID#: 2002229R1-01A

EPA METHOD TO-17

File Name:	**11021119**	**Date of Extraction: NA**	**Date of Collection: 2/7/20 11:44:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 01:26 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	10000	Not Detected	Not Detected

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	78	50-150

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Client Sample ID: P4-5
Lab ID#: 2002229R1-02A
EPA METHOD TO-17

File Name:	**11021120**	**Date of Extraction: NA**	**Date of Collection: 2/7/20 12:33:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 02:08 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	10000	1100	11000

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	79	50-150

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Client Sample ID: P4-5 Rep
Lab ID#: 2002229R1-03A
EPA METHOD TO-17

File Name:	**11021121**	**Date of Extraction: NA**	**Date of Collection: 2/7/20 12:37:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 02:49 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	10000	1500	15000

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	79	50-150

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Client Sample ID: P3-5

Lab ID#: 2002229R1-04A

EPA METHOD TO-17

File Name:	**11021122**	**Date of Extraction: NA**	**Date of Collection: 2/7/20 1:15:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 03:31 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	10000	1200	12000

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	72	50-150

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Client Sample ID: P2-5
Lab ID#: 2002229R1-05A
EPA METHOD TO-17

File Name:	**11021123**	**Date of Extraction: NA**	**Date of Collection: 2/7/20 1:55:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 04:12 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	10000	Not Detected	Not Detected

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	78	50-150

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Client Sample ID: P1-5
Lab ID#: 2002229R1-06A
EPA METHOD TO-17

File Name:	**6021210**	**Date of Extraction: NA**	**Date of Collection: 2/7/20 2:20:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 04:48 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	1.0	10
TPH (Diesel Range C10-C22)	1000	10000	Not Detected	Not Detected

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	102	50-150

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Client Sample ID: Lab Blank

Lab ID#: 2002229R1-07A

EPA METHOD TO-17

File Name:	**11021107**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 2/11/20 04:37 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	10000	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	88	50-150

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Client Sample ID: Lab Blank

Lab ID#: 2002229R1-07B

EPA METHOD TO-17

File Name:	**6021206**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 01:22 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	10	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	10000	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	99	50-150

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Client Sample ID: CCV
Lab ID#: 2002229R1-08A
EPA METHOD TO-17

File Name:	**11021104**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 2/11/20 02:31 PM**

Compound	%Recovery
Naphthalene	81
TPH (Diesel Range C10-C22)	78

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	81	50-150

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Client Sample ID: CCV
Lab ID#: 2002229R1-08B
EPA METHOD TO-17

File Name:	**6021204**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 12:00 PM**

Compound	%Recovery
Naphthalene	93
TPH (Diesel Range C10-C22)	128

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	92	50-130

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Client Sample ID: LCS
Lab ID#: 2002229R1-09A
EPA METHOD TO-17

File Name:	**11021102**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 2/11/20 01:04 PM**

Compound	%Recovery	Method Limits
Naphthalene	90	70-130
TPH (Diesel Range C10-C22)	Not Spiked	60-140

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	81	50-150

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Client Sample ID: LCSD

Lab ID#: 2002229R1-09AA

EPA METHOD TO-17

File Name:	**11021106**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 2/11/20 03:56 PM**

Compound	%Recovery	Method Limits
Naphthalene	89	70-130
TPH (Diesel Range C10-C22)	Not Spiked	60-140

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	69	50-150

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Client Sample ID: LCS
Lab ID#: 2002229R1-09B
EPA METHOD TO-17

File Name:	**6021202**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 10:39 AM**

Compound	%Recovery	Method Limits
Naphthalene	94	70-130
TPH (Diesel Range C10-C22)	Not Spiked	60-140

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	91	50-130

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Client Sample ID: LCSD

Lab ID#: 2002229R1-09BB

EPA METHOD TO-17

File Name:	**6021203**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 2/12/20 11:19 AM**

Compound	%Recovery	Method Limits
Naphthalene	91	70-130
TPH (Diesel Range C10-C22)	Not Spiked	60-140

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	89	50-130

TO-17 SAMPLE COLLECTION

CJ021020-ATL 200120.06 H&P PM: Kristin Beckley

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Eurofins assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

Project Manager Michael Anelmo

Collected by: (Print and Sign)

Company C. James Associate Email cjgmesinc@reagan.com

Address PO Box 4832 City Oceanside State CA Zip 92052

Phone 760 722 0450 Fax

Project Info:
P.O. # 01085
Project # 01085
Project Name Fallbrook Hospital

Turn Around Time:
☑ Normal
☐ Rush
specify

Reporting Units:
☑ ppmv
☐ ppbv
☑ µg/m3 VB2%
☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr : min)	Date of Retrieval (mm/dd/yy)	End Time (hr : min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume	Indoor Air	Outdoor Air	Soil Vapor	Other (TO15 Napht Diesel)
01A	P5-5	G0151187	2/7/20			1144			100ml	☐	☐	☑	☐
02A	P4-5	G0150522				1233				☐	☐	☐	☐
03A	P4-5 Rep	A00480				1237				☐	☐	☐	☐
04A	P3-5	A00441				1315				☐	☐	☐	☐
05A	P2-5	G0149122				1355				☐	☐	☐	☐
06A	P1-5	G0148357				1420				☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
	2/7/20 1500		2/7/20 1500
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
			2/11/20 1049
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: 100cc collected per Sorbent tube.
Report to: C James & Associates (CC H&P)
Invoice to: noah.unsworth@HandPMG.com

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		4.0	Good	Yes No None	2002229